The Oil and Gas Journal

PRODUCING REFINING MARKETING

VOL. 24. NO. 47. TULSA, OKLAHOMA, APRIL 15, 1926

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TABLE OF CONTENTS

SPECIAL ARTICLES

Crude Oil Situation Shows Improvement 37
By Andrew M. Rowley
Loss of California oil important factor. Increase in drilling activity expected.

Quantity Discount Principle Approved 40
By Neil Williams
N. P. M. A. Convention decides to await Wisconsin hearings before further action.

General Business Conditions and Oil Industry 40
By N. O. Fanning

Oil Burners and Six-Cylinder Heat 41
By R. L. Welch
Furnace oil in basement costs less than gasoline in car. No need for alarm about supply of either.

American Oil Burner Association Meets 41

Hand Pumps on These Grass Roots Wells (Illustrated) 42
By C. D. Lockwood
Interesting experiment in restoration of pressure in miniature field near Coffeyville.

Gasoline and Taxes (Editorial) 44

Hold Interesting Technical Sessions 46
By C. K. Francis
Discussions relative to quality of motor fuels and lubricants feature American Chemical Society's meeting.

California's Fire Loss 7,700,000 Bbls. 46
By L. P. Stockman

Better Balancing of Markets by Mergers 48

Developments Forecast More Activity 49
Discovery of new pool in southwest Texas and good producer from Tonkawa sand at Garber will stimulate drilling.

Will Calgary Lemons Turn to Oranges? 70
By Victor Lauriston

Refining in the Louisiana Gulf Coast (With Graphs) 80
By Charles E. Bowles
Seven plants all located along Mississippi River, four in hands of large integrated companies.

Southeastern Oil Possibilities (Illustrated) 90
Cane Creek well, near Moab, stimulates interest in southwestern Colorado as potential producing area.

Most Production Pools Show Decline in Total Production 92
By James McIntyre

Hydraulic Feed Rotary Drill Used in Mexico 108
By George Blardone

FIELD OPERATIONS

Texas Panhandle 48

Late Fields 49

Gulf Coast 51
By P. L. McGreal

Oklahoma 52
By C. D. Lockwood

Kansas 53
By C. D. Lockwood

Louisiana-Arkansas 56
By James H. Dameron

New Mexico 56
By Special Correspondent

Mexico 58
By George Blardone

Southwest Texas 60
By B. D. Stevenson

East Central Texas 60
By Special Correspondent

North Central Texas 62
By George R. Kelley

California 64
By L. P. Stockman

Rocky Mountain Area 65
By F. B. Taylor

Canada 65
By Victor Lauriston

Michigan (Map of Oil Area) 66
By Whit

Kentucky-Tennessee 68
By Vern T. Whitney

Central West 68
By Whit

Pennsylvania-West Virginia 70
By D. S. Wakenight

REFINING AND MARKETING

Refiners Await Better Gasoline Demand 38
By Neil Williams
Jobber inquiries expected when roads dry. Market now quiet with trading in heavier oils limited by scarcity. Motor fuels soft.

Q. D. A. Development of Competition 138
By Edgar Bogardus
Representative of Indiana company says discount contracts are due to keen rivalry in gasoline sales.

Refining and Marketing News 148

Plant Operators' Page 150

Refinery and Crude Prices 152-153

Tank Wagon Quotations 154

Chicago Gasoline Market Still Mixed 144
By J. B. Waldo

Eastern Oil Situation Exceptionally Strong 145
By N. O. Fanning

Cracking Shale Oils for Gasoline 146
By Jacque Morrell and Gustav Egloff
Large yield having anti-knock properties. Method of treating for water white and stable product.

Device Regulates Flow of Gas (Illustrated) 164
By George W. H. Reid
Plates in absorbers regulated in line with operating requirements. Adds to flexibility.

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 35

Natural Gas Developments 72

Men Known in Oildom and Personals 74

Equipment and Supplies 76

Classified Want Advertisements 142-143

Comparatively Active But Weak Securities Market 156
By N. O. Fanning

Detailed Field Operations for March 175

What and Where to Buy 191-192-193

Crude Petroleum Statistics 194

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Refinery Section Starts on Page 144

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Crude Situation Shows Improvement

Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.

Loss of California Oil Important Factor. Increase in Drilling Activity is Expected

By Andrew M. Rowley

Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.

Further improvement in the crude petroleum situation in the United States was registered during the past week when production settled back to more nearly normal; weather conditions indicated increased consumption; and the output of crude decreased nearly 10,000 barrels daily with light oil showing a drop of nearly 16,000 barrels daily. In connection with the substantial decline in crude oil production, it must be remembered the loss of 7,700,000 barrels of oil by fire in California is equal to a decrease of more than 21,000 barrels production for one year. The quantity of crude in storage has a most important bearing upon the general situation, consequently the wiping out of this large quantity of oil in California cannot help but have an effect upon conditions throughout the whole country.

Production figures of the past week are more nearly representative of the true situation than those of the previous week, owing to the fact the flush production of the Garber Field in Oklahoma was a temporary condition of the week before as was the big decline in the Gulf Coast resulting from the storm in that area. The destruction of 7,700,000 barrels of oil, however, is a most important factor as its effect will extend over a long period.

Drilling activity probably will be increased as a result of developments in different areas during the past week. The discovery of a new oil pool in southwest Texas has encouraged operators in that area and will stimulate development work there while the bringing in of a 4,500-barrel well from the Tonkawa sand in the Garber Field is expected to result in the drilling of possibly 100 more wells in that field during this summer. The old Spindletop Pool below Beaumont, Tex., may stage a revival of activity as an aftermath of the completion of a well there with a flush output of 6,000 barrels from a deeper producing horizon.

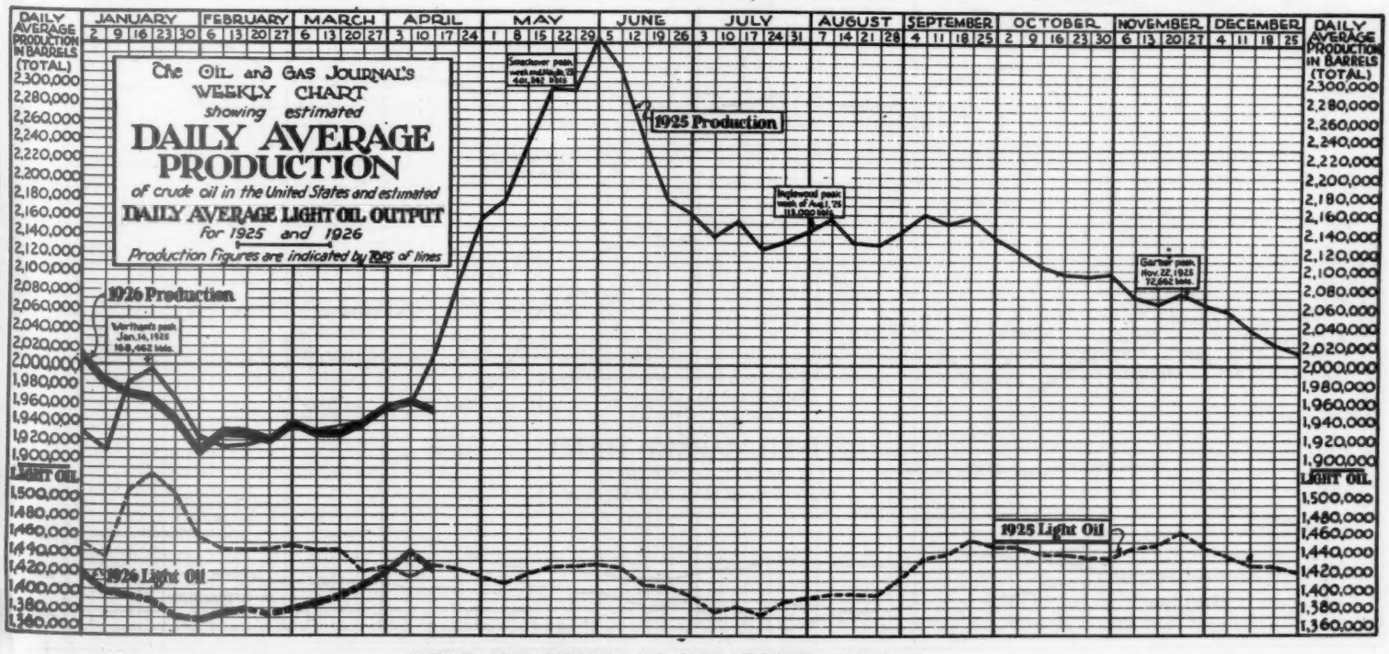
On the whole, the situation appears to be exceptionally promising at this time. The crude oil market is strong with many operators feeling an increase in posted prices is not an improbability of the near future. This differs from previous years when price reductions were announced during the early summer. Postponement of price rises this year until conditions actually warranted increases certainly aided the general situation.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended April 10, and a comparison with the previous week follows:

	Apr. 10		Apr. 3	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	38,730	.....	40,080	.....
Burbank	41,635	.....	42,215	.....
Other Osage Fields	32,810	.....	32,810	.....
Cushing and Shamrock	21,905	.....	22,045	.....
Bristow and Eastern Bristow	30,045	.....	30,435	.....
Cromwell	18,540	.....	18,290	.....
Papoose	12,465	.....	12,765	.....
Garber	37,835	.....	47,520	.....
Blackwell-Braman	16,440	.....	17,120	.....
Davenport	18,480	.....	19,540	.....
Wewoka	32,795	.....	29,945	.....
Northern Miscellaneous	100,285	.....	99,210	.....
Southern Fields	67,220	.....	67,115	.....
Total Oklahoma	469,185	.....	479,090	.....
North Louisiana	51,140	.....	49,125	.....
Arkansas—				
El Dorado and Calion	7,460	.....	9,605	.....
Smackover Light	17,830	.....	18,155	.....
Smackover Heavy	.....	133,753	.....	134,345
Miscellaneous	10,410	.....	7,635	.....
Total Arkansas	35,700	133,753	35,395	134,345
North Central Texas	172,175	.....	176,615	.....
Powell	29,760	.....	31,410	.....
Mexia, Currie, Richland, etc.	14,745	.....	15,830	.....
Wortham	10,640	.....	10,900	.....
Kansas	101,210	.....	101,230	.....
Total Mid-Continent Area	884,555	133,753	899,595	134,345
Gulf Coast	.....	91,764	.....	86,045
Southwest Texas	.....	39,873	.....	38,825
Eastern	97,870	.....	98,100	.....
Rocky Mountain Area	106,690	.....	104,890	.....
California—				
Santa Fe Springs	49,000	.....	49,500	.....
Long Beach	108,000	.....	111,000	.....
Huntington Beach	44,000	.....	44,000	.....
Torrance	5,500	23,000	5,000	23,000
Dominguez	21,000	.....	20,500	.....
Rosecrans	20,000	.....	20,500	.....
Inglewood	29,500	22,000	29,000	22,000
Remainder of State	60,000	219,000	60,000	219,000
Total California	337,000	264,000	339,500	261,000
Total United States	1,426,115	529,390	1,442,085	523,215
Grand Total		1,955,505		1,965,300

Total Decrease, 9,795 Bbls.; Light Oil Decrease, 15,970 Bbls.



WHAT AND WHERE TO BUY—PAGES 191-192-193

Refiners Await More Gasoline Demand

Jobber Inquiries Expected When Roads Dry. Market Now Quiet With Trading in Heavier Oils Limited By Scarcity. Motor Fuels Are Soft

By Neil Williams

The past week was entirely uneventful in the Oklahoma (Group 3) refined market. The continued scarcity of fuel oils, gas oil and distillates made trading in those products next to impossible while rains and bad weather throughout the northern and middle and central western states prevented any likely improvement in the demand for Mid-Continent motor fuels.

The marked weakness which developed in gasolines the previous week resulted in further sagging of prices and most sellers had difficulty in moving their materials even at these concessions. Except for natural gasolines, nearly all other products were practically unchanged in prices.

The dullness in trading was attributed to some extent to the fact that many jobbers, as well as refiners, were attending the spring conference of the National Petroleum Marketers Association at Chicago. But it can be said for the convention that it could not have come at a more favorable time considering the present slowness of business.

However, despite the inactivity of the market and the weakness of motor fuels, most Oklahoma refiners continued optimistic, believing that there is a strong demand waiting their products as soon as the bad weather breaks and the roads dry up in the northern and middle western states.

It is known that the lack of demand for gasolines the past few weeks has been due almost entirely to conditions of roads which have been almost impassable throughout the Mid-Continent's marketing territory. Some refiners, who have stayed at their plants or offices in Oklahoma, have been wondering why they couldn't move gasoline but if they could have seen the weather and the snow covered and water soaked roads throughout the north they would have known that they could not have sold gasoline at any price.

REFINED MARKET BAROMETER

General strength in eastern centers, strong fuel oil, gas oil and distillates but weak motor fuels in the Middle West and Mid-Continent, and softening burning oils on the Pacific Coast summed up refined markets of the country the past week. Advances in refinery gasoline prices at eastern refineries following tank wagon rises so far has had no real effect on other districts weakened by lack of demand. Fuel oil, gas oil and distillates held their sound position in all areas except on the Pacific Coast where softness, accompanied by price reductions, developed in distillates and other burning oils. Kerosenes on the whole were firm with demand steady. Improvement was shown in lubricating oils in some districts with a tendency toward price steadiness.

Mid-Continent—Scarcity of fuel oil, gas oil and distillates and lack of demand for motor fuels prevented activity in all sections. The weakness of motor fuels was increased by a reduction of a half-cent in tank wagon postings. Prices on the whole were unchanged. Kerosene firm. Lubricants steadier. Naturals lower.

Atlantic Seaboard—Refinery gasoline prices advanced following tank wagon and export increases. Gas oil and kerosene firm. Fuel oil steady. Lubricants unchanged but cylinder stocks in better demand. Petrolatum dull.

Pennsylvania—Eastern tank wagon advances strengthen refined markets but gasoline consumption held down by bad roads. Kerosene strong. Neutrals active. Cylinder stocks slow. Wax improves. Fuel oil holds own.

California—Gas oils, distillates and kerosenes develop weakness with prices materially lower. Gasoline firm but consumption falls off.

Chicago—Improvement in gasoline demand prevented by bad weather and roads. Prices lower. Gas oil, distillates and fuel oil continue strong. Kerosene firm.

Gulf Coast—Unchanged.

Not a Matter of Price

The writer talked to a number of large jobbers at the convention last week and they were all of accord that the price of the gasoline was not what was keeping jobbers from buying and that refiners would get very little more business by making concessions than if they held their quotations at present levels.

The jobbers were free to admit that they have very little stocks on hand and that just as soon as they could market their products they would be seeking gasoline from refiners, and not before. At present they are content with ordering an occasional car to meet the needs of city consumers, who ride on pavements.

It has been generally pointed out by some that if the jobbers really believed that markets would improve in the near future they would be more than anxious to buy some of the gasoline now freely offered at low prices. In answer to this, however, are the statements of some leading jobbers that they do not wish to speculate on future markets and will continue to follow the policy they have been for some time of ordering only to cover their needs.

Refiners are coming more and more to realize this change in market conditions and as a result have been slower to make concessions than they ordinarily would with it as difficult to move gasoline as it is. This is illustrated in the fact that it is almost impossible to buy the U. S. Motor grade of gasoline under 10 cents, a price which has held for a week in the face of dullness.

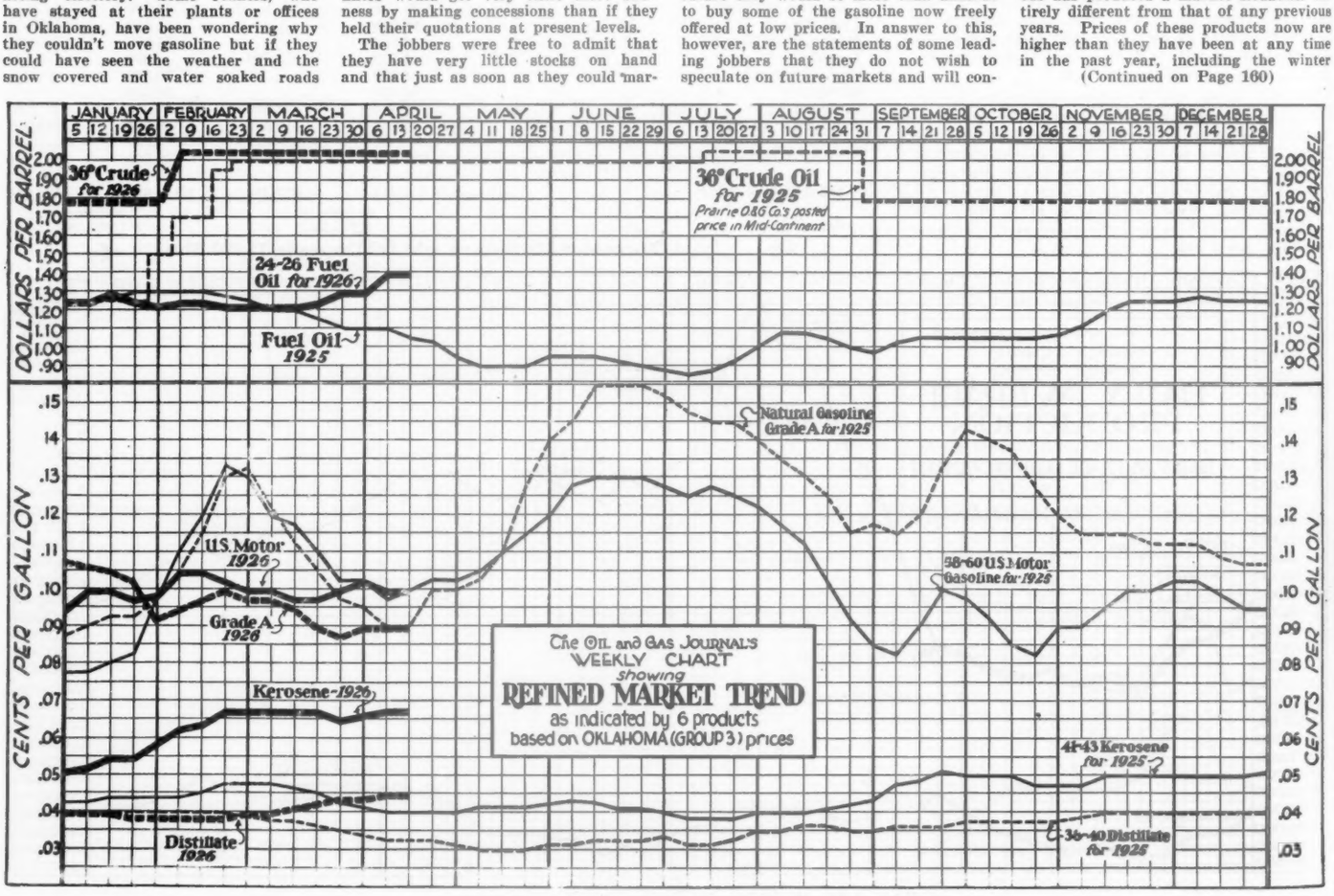
The feeling of Oklahoma refiners was considerably improved the past week by general advances in tank wagon and export prices of gasoline in the eastern territory. This indicated that market conditions there are strong and as a result would increase the demand for Mid-Continent products just that much more.

The continued strength of fuel oil, gas oil and distillates also helped offset any discouragement over the weakness of motor fuels. These products still failed to develop the slightest tone of easiness. While domestic consumption is not expected to hold up much longer, the demand for cracking stock is even greater. However, it seems to be generally felt that prices of these products will not be much higher and inquiries for these products for domestic needs demanded immediate shipment.

Demand for Fuel Oil

However, market students have been reluctant to make any guesses on trends of burning and fuel oils as the development of cracking in modern refinery methods has produced a market situation entirely different from that of any previous years. Prices of these products now are higher than they have been at any time in the past year, including the winter

(Continued on Page 160)


JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
36° Crude for 1926
24-26 Fuel Oil for 1926
Fuel Oil 1925
36° Crude Oil for 1925
Prairie O&G Co's posted price in Mid-Continent
CENTS PER GALLON
U.S. Motor 1926
Grade A 1926
Kerosene-1926
Distillate 1926
Natural Gasoline Grade A for 1925
38-60 U.S. Motor Gasoline for 1925
41-43 Kerosene for 1925
36-40 Distillate for 1925
The Oil and Gas Journal's WEEKLY CHART showing REFINED MARKET TREND as indicated by 6 products based on OKLAHOMA (GROUP 3) prices

Cane Creek, Utah, Well a Real Wildcat

Deep Canyons and High Mountains Around Producer. Topography of the Country Presents Many Handicaps

By Frank B. Taylor

CASPER, Wyo., Apr. 10. — Another great problem of obtaining petroleum from inaccessible places has presented itself to the oil man in the new field opened at Cane Creek Dome on the Grand River in east central Utah. When petroleum was found in the hills of Pennsylvania, derricks were placed on stilts against the steep hillsides and the practice was continued down through West Virginia. The gently rolling country of Ohio and Indiana presented only minor difficulties and then down in Louisiana, the oil men started to drill wells out in the lakes and bayous and on the Pacific Coast, they placed locations and drilled their wells out in the ocean.

In the new district opened by the Midwest Refining Co. and the Utah Southern Oil Co. south of Moab, an entirely new problem of development presents itself, that of moving in material and equipment over country that forbids the building of roads and taking out the production over the same country.

The rivers in Utah have cut down through the strata until they flow through narrow canyons. The course is by no means straight, but bends and twists like a snake. The Grand River that flows south from Moab to the Cane Creek well is no exception. Leaving Sager, the rail point on the Rio Grande Western Railroad, one drives 40 miles across country to Moab, an inland town of perhaps 600 inhabitants, though now nearly doubled in population due to the newcomers drawn there by the oil strike.

In Midst of Canyons

Moab is located at a point on the river where two creeks flow into the main stream and this convergence has cut out a valley among the silent hills where the rich alluvial soil, under the tillage of the Mormon farmers, brings forth in abundance.

Three miles downstream, the canyon walls again close in on the river and from that point to the Cane Creek vicinity, and on down the river, the great walls on either side are broken only by occasional deep gorges where some side stream has worked its way through the wall to empty in a series of swift falls into the river.

Cane Creek and the discovery well is located 18 miles downstream from Moab. The river has no sharp riffles between the well and Moab, but deep pools and a few shallow points predominate. The channel changes over night at times and the little gasoline boat that plies between Moab and the well, often finds a bar where it previously ran without hindrance.

To reach the well by automobile is an impossibility. There is a poor track whereby a car can get to within about 5 miles of the well, by leaving Moab and going southwest, then swinging back to the rim. However, the traveler who elects to journey by this route has a hard climb down over the rim, by precarious trails, to reach the valley of the river.

Trip by Gasoline Boat

Leaving Moab on the little gasoline boat, the fare to the well is $5, the canyon is entered about 3 miles below the town. Here the cliffs rise straight from the river's edge to about 800 feet in a solid mass of red sandstone, shales and limestones. Everything is a deep red and even the river appears at times a bloody color from the reflected cliffs. In winter the floating cakes of ice and the shore ice assumes a startling white in comparison. Here and there along the trip, the river has deposited silt during high stages until the soil rose above the normal stage and willows and other small growth have found foothold for their roots. For the most part, however, the cliffs come right down to the water's edge or else show only a talus slope covered with boulders and debris.

The stranger is apt to consider that on top of the cliff wall about 800 feet above the river is a rolling country. This is a mistaken idea. The cliffs form terraces and after reaching the top of the first, another height appears confronting the climber, back of that one is another and so on until at a height of about 3,000 feet above the river, the top is reached and a desert plain, broken by deep gorges cut by erosion, presents itself.

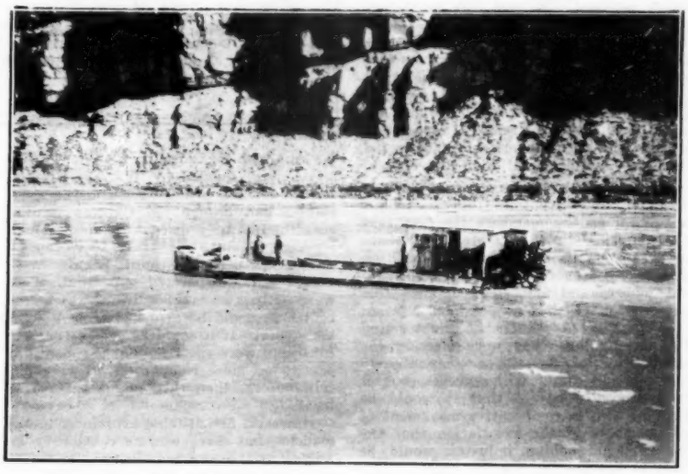
The strata in the canyons show plainly the structural rises that lured the geologists into the country in their search for oil. The surface formations are plain to be seen and even a tyro in geology can readily see the domes on which the oil men are pinning their faith.

Well in Lonely Section

Rounding the bend of the river, the discovery well comes into view, the top of the derrick carrying a platform much like those built on rotary rigs, though this well was drilled with cable tools. Located on the Talus slope, just out of the high water danger, the rig and camp look folorn and lonely after the long trip through the canyons. However, the men composing the crew welcome the visitor in true oil country fashion.

If the traveler elects to cover the district in a general way, the trip by the boat to the well is hardly sufficient. Upon reaching the discovery well, much tiresome climbing must be done to attain the top of the rim that parallels the river. Then a man on foot has only a comparatively small area that he can cover.

Horseback is about the best way to reach the country on top of the rim and horses are to be had at Moab, together with pack horses and outfits that will enable a person to stay out in the region any length of time. Burros cannot keep up with a horse so these little animals are only fit to be used where the traveler expects to go afoot and does not wish to carry his equipment in a pack. The stranger should always bear in mind that this is a desert region with habitations few and far between. Water is a precious commodity up on the rim and the need of a guide who is familiar with the country is imperative.



The gasoline boat which provides only means of transportation to the well.

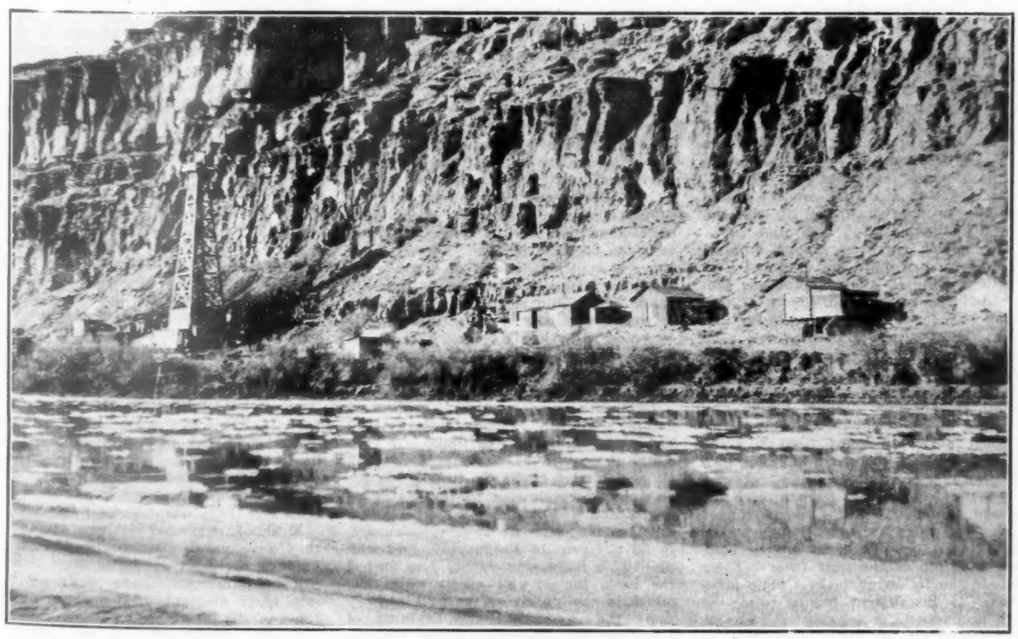
The whole region is very similar to that of the Grand Canyon of the Colorado, except that the rim is not as high as the Grand Canyon and the surface back of the rim is broken up much more.

With a saddle horse and pack train, the traveler can explore the country without much trouble other than the usual inconvenience met with in "roughing it" in the great open spaces. Back of the plains on the rim are always the ranges of mountains and by fixing certain peaks or peculiarities in the ranges, one can always orient himself as to compass points. The food carried on such trips must be such as to give the most nutriment for the least weight. Bacon, beans and flour are the staples used most. Though with the plentiful stocks of canned goods to be secured at the towns, the present day traveler has a variety never dreamed of by the old time desert wanderer.

The problem of working out the development of a field in this region will be interesting to those on the outside. One of the first questions to arise is how a pipe line is going to be laid. The bed of the river might be used, but this is dangerous on account of the shifting nature of the river's bed and the deep pools followed by shallower places that would be liable to have a stretch of the line swinging in the current between two points. Also the river would prevent any inspection of the line after it was once placed.

The talus slope, composed of debris from the cliff walls probably present the best route for a pipe line and the line can then strike up one of the numerous

(Continued on Page 158)



View of the discovery well along bank of Grand River below Moab, Utah.

Quantity Discount Principle Approved

National Petroleum Marketers Association Decides to Await Wisconsin Hearings Before Further Action

By Nell Williams

CHICAGO, Apr. 10. — That only some applications and practices which have grown out of quantity discount contracts for gasoline sales, and not the principle of the system, are unfair, discriminatory and detrimental to the smaller independent jobbers was the conclusion drawn at the spring conference of the National Petroleum Marketers' Association at the Congress Hotel, April 6, 7 and 8.

Open discussion of quantity discounts featured the three days convention at which between 750 and 800 marketers and jobbers from all parts of the country were registered. The convention was the most largely attended spring conference in the history of the association, this being due largely to the fact that quantity discount contracts have been the most vital problem facing independent jobbers and all members were interested in a free discussion of this subject.

While little of a definite nature was done at the convention, the discussions impressed on the members the fact that the quantity discount system was here to stay as a sound business proposition and that it would be up to the independent jobbers and marketers to meet this competition as well as possible.

A number of jobbers at the meeting told briefly how they were meeting the competition of the larger companies in quantity discounts with success, but it was generally agreed that it would be through only a co-operative movement of all members of the association that the independent jobbing industry would be able to survive.

It was the intention of the convention to work out and put into operation a practical system of discounts for quantity sales of gasoline in which the association as a whole could participate but resolutions were presented and passed which pointed out the necessity of the association waiting the outcome of the Wisconsin quantity discount hearings before the State Bureau of Markets at Milwaukee, April 14 and 15.

The Milwaukee hearings are the result of a concerted attack on the part of the independent jobbers against the legality of quantity discounts as practiced by some of the larger companies in Wisconsin. As that State is one of the hotbeds of the controversy, the outcome of the case is being watched with keen interest by all concerned.

To Act as Clearing House

Although delaying action on a uniform quantity discount plan for the association, the convention did pass resolutions unanimously authorizing L. V. Nicholas, the president, and the directors of the organization to formulate plans for a clearing house and a practical system of interchanging gasoline coupons.

A plan of this nature had been advocated by Mr. Nicholas for several months as the only solution of the problem in which the independent jobbers had to compete with large integrated companies having great chains of filling stations in large territories. The local aspect of the independent jobber in the past has been a great obstacle in getting gasoline contracts from companies having trucks and automobiles operating over a large territory.

His idea practically fulfilled, Mr. Nicholas started work immediately after the convention on definite steps for putting the system in operation and it is not expected to be long before the jobbers will be able to operate under the new plan.

Beliefs of some of those attending the convention that the National Petroleum Marketers' Association should take legal steps at once for an injunction against the practice of quantity discount contracts were quelled by William Ritchie, Jr., an Omaha attorney, whom the association had brought to Chicago to discuss the quantity discount policy from a legal standpoint.

Quantity Discount Legal

Mr. Ritchie pointed out that there were only two angles from which the contracts could be attacked from a legal standpoint. If it could be shown that the contracts were the result of a conspiracy of two or more companies, or were discriminatory, then they might be held illegal.

However, Mr. Ritchie explained, it was evident that there was no conspiracy involved as the contracts were initiated by only one company first, and as the contracts were open to all buyers of gasoline there could be no discrimination.

The attorney further declared that it was his opinion that the practice of giving discounts for quantity purchases was the soundest business judgment, and entirely ethical. He even went so far as to disapprove any legal action against any cases of misapplication of the quantity discount contract because of the danger of antagonizing possible customers.

As an alternative move, Mr. Ritchie also advised members of the association to forget the legal angle, face the problem as it is and co-operate to work out some fair method of meeting the competition arising from the quantity discounts.

Some bitter discussion was aroused during the meetings when certain leading members of the association were accused of being among those marketers and jobbers resorting to price cutting and practices demoralizing to market conditions. These defended their position with the explanation that they conducted all their business in the open and that it was their method of meeting the quantity discount.

One member in particular pointed out that he was able to undersell every other jobber in his city because he was able to operate on a low overhead and did not give pumps and equipment or any other inducements to get business as certain other jobbers had been known to do.

Oppose Price Cutting

However, the association as a whole went on record as opposing price cutting tactics, as well as the policy of offering pumps, equipment and other inducements to obtain business. Those present seemed agreed that the only successful method of operating was to conduct an open, fair and clean business without regard to underhanded tactics of others.

In the course of the discussion on quantity discounts, several leading members of the association told how they locally had been able, not only to hold their own, but to build up thriving businesses in the face of bitter competition and without the aid of the association or other outside help.

These incidences were told, it was explained, not with the view that these practices should be adopted by all members of the association but only as examples of how some jobbers had adopted themselves to local conditions. It was pointed out that every jobber in reality has his own individual problems to solve.

One of the most interesting accounts of meeting quantity discount competition was that of L. L. Coryell of Lincoln, Neb., who operates stations at St. Joseph, Mo., and Des Moines, Iowa. At St. Joseph, Mr. Coryell is selling gasoline to everyone, either large buyers or small, on the tank wagon basis, or 2 cents below the regular filling station price in that city.

Although admitting to be a price cutter, Mr. Coryell pointed out that he in reality was not selling gasoline any cheaper than stations giving discounts for quantity purchases but that the only difference was he had one price and gave even the smallest buyer the benefit of the lower price, while other stations only gave the discounts to the large customers.

By this plan, Mr. Coryell added, the increased business he obtained from the small retail buyer more than offset any business he lost to larger companies because of the quantity discounts. However, he explained, he was able to conduct a business of this kind only because of his exceptionally low overhead cost.

To reduce his overhead, Mr. Coryell has cut his handling costs by combining his service and bulk stations, having locations near railroad siding where his gasoline can be unloaded directly into his tanks, and by taking off all tank wagons. To get his gasoline, all customers must come directly to his station as he does not deliver.

As another method of reducing operating costs, Mr. Coryell does not give away pumps, equipments or make any other inducements to get business so common to many other members of the jobbing and marketing business. Elimination of this expensive practice has enabled him to appeal to consumers on a strictly financial saving basis.

Without Reductions

H. H. Ragle of the American Oil Corp. of Jackson, Mich., told how he was making a success without even price reductions. He declared that he was appealing for business and got it on a strictly open and independent basis.

Most of the other jobbers said that they were meeting competition by offering customers any price to meet reductions of larger customers or by putting into effect discount schedules similar to those of the larger companies.

Among applications of the quantity

(Continued on Page 160)

HIGH POINTS OF CONVENTION

1. Principle of discount for quantity gasoline sales upheld by majority at convention as fundamentally sound, ethical, logical and good business practice.
2. Practices of some companies growing out of quantity discount system condemned as discriminatory and unfair.
3. Convention voted to delay definite action by association toward working out a uniform quantity discount system until after the quantity discount hearings before the State Bureau of Markets of Wisconsin at Milwaukee, April 14 and 15.
4. Resolutions passed authorizing L. V. Nicholas, president, and directors of the National Petroleum Marketers' Association, to formulate plans for an association operated clearing house and interchange of coupons among members of the organization.

GENERAL BUSINESS CONDITIONS IN RELATION TO OIL INDUSTRY

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

NEW YORK, Apr. 12.—Leaders in the financial, business and political worlds recently have taken cognizance of a diminution in the speculative enthusiasm which has existed since the presidential election of 1924. This enthusiasm was the natural expression of relief over the fact that a constructive administration had been chosen instead of one of radical tendencies, and that the country would continue to flourish under its old and proven institutions.

The sudden check to a long uninterrupted period of optimism consisted in a drastic decline in stock quotations, and although the causes and effects of this slump have been minimized, the fact remains that whereas before there was no inclination to "take stock", since the business world has been looking for weak spots in the situation. Oil men, as well as others, are now "taking stock" and checking up here and there, as it is one of their duties to know what is going on outside, as well as within, their own industry.

A study of recent reports and expressed opinions indicates the particular tendencies which are now being watched as having a possible effect on the business situation of the near future. These include the following: (1) Credit inflation; (2) installment buying, and (3) high production.

Consideration of these tendencies, as they are regarded, and their possible relationship to the oil business is timely near the beginning of a year, and discussion is always pardonable as bringing out the fundamental conditions and differences in tendencies in the oil business and other lines.

Credit Inflation

Leaders in the financial world are one in recognizing the benefits of sound credit. At the same time, it is a fact that the supply of credit, as well as of all other material things, does not remain stationary, nor does it continue to expand always, or contract always. It expands for a period of time, then contracts, then expands again, and so on. The expansion or contraction usually takes place in accordance with the demands of trade. There is also a tendency for business to expand, or contract, as credit expands or contracts.

Expansion or contraction of credit cannot be artificially regulated except within certain limits. These limits are generally prescribed by the supply of gold, on which the credit is usually based. Gold has been flowing to the United States and away from most other countries, so that now we have approximately 50 per cent of the world's gold supply. This increasing supply has formed the basis for great credit expansion, which is now nearly at the peak.

At the same time the draining of gold from many countries which are gen-

(Continued on Page 162)

Oil Burners Are Six Cylinder Heat

Furnace Oil in Basement Costs Less Than Gasoline in Car. No Need for Alarm About Supply of Either

By R. L. Welch*
Secretary and General Counsel, American Petroleum Institute

The question what petroleum resources will be available in the future for house heating can be answered only by an opinion founded in part on known facts, and in part on conjecture.

The only worth-while opinion about the future is one upon which a man would himself act. Were I to buy a home in any place where furnace oil is customarily delivered by oil companies, I would carefully avoid poor oil burners and would install the best oil burner sold in the neighborhood by a reliable company guaranteeing service. But I would have certain qualifications in mind. I would hope, but not expect, that furnace oil would be sold forever for a price which, from a strictly B. t. u. basis, would be on an equality with coal.

The relative prices of soft and hard coal furnish some criterion. Soft coal in most sections of the country is the cheapest source of domestic heat, and therefore most commonly used. Yet in those sections, hundreds of thousands of consumers pay twice or three times as much on a B. t. u. basis for hard coal. Its superiority justifies the price. And the price determines the quantity which can profitably be produced. If the consumer were willing to pay higher prices, more hard coal would be produced. If he should conclude that present prices are too high, less hard coal would be produced. The superiority of hard coal over soft coal is reflected in the price which the consumer is willing to pay. The production and consumption are limited by the superiority of use determined by price.

On the question of quantity, the consumer, and the consumer alone, is the final arbiter. His judgment as to relative superiority settles the matter. Furnace oil is a superior fuel to anthracite. It is also potential gasoline. The qualities which make it superior for house heating are the same which make it potential gasoline. The extent of its use for house heating and for gasoline-making purposes, and this its relative value, will be determined by the consumer.

Analogy of Hard Coal

This superiority of use suggests—going back to the analogy of soft and hard coal prices—that the demand for furnace oil will expand to the point that will gauge that superiority through the medium of price. The problem is not primarily one of "supply," but rather one of economics, running the whole range of costs, economies, and conveniences of coal, petroleum, of motor fuel, and of substitutes therefor.

Nobody can guess a future that is in the hands of the inventors, the scientists, the technicians. Tomorrow is on the lap of the gods. When tomorrow shall have come, what will the organic chemist have done with coal and lignite? What will the engineer and the scientist have done with shale? What will Mr. Kettering, who just concluded an interesting address, and men like him, have done with the automotive engine? What is the manufacturer of oil-burning apparatus going to do eventually about the cost and efficiency of his equipment? What is the oil producer going to do about oil? Finally, what is the public going to do about all these things? The man wise enough to know all this and many more equally baffling things can tell what the exact future of domestic oil burning and supply will be.

Whales furnished sperm oil for light. As the lights multiplied, it was feared the whales would disappear. Then kerosene brightened the world. The whales thought themselves safe in the sea. The worry was transferred to kerosene. What would we do when the kerosene lights went out? The answered proved to be that gas would blow them out before they went out. Next, electricity was about to take both kerosene and gas to the execution chair. And yet today the whales are being caught; kerosene rides the seven seas to all countries; gas is everywhere, and electricity rivals the northern lights.

Usefulness of the Obsolete

Some day someone will write a book about the usefulness of the obsolete. He will sit by the fireplace—abandoned for more useful forms of heat—and by the candle of a bygone age will tell us that every first-class house should have a fireplace, and every hostess should have more candles than the pioneer could have made in a week with the now discarded candle molds.

This condition is not peculiar to the oil burner or the oil industry; it inheres in every business.

It seems but a little time since people were sticking small rubber tubes into their ears, listening with wonder to a talking machine. Almost next day, every home was graced with a mahogany cabinet that talked and sang and played. Then came the radio, and it looked as if the talking machine business was headed for the economic bow-wows. And then someone very recently made such improvements in the talking machine that everyone now wants a new one. So there you are!

About a century ago Elias Howe discovered that you could sew best with a needle having the hole near the point, rather than at the other end. That ought to have put the old-fashioned needles out of business. But it merely increased their sale!

The automotive industry, by all nineteenth century reasoning, ought to have gone bump long ago. Look back to the advent of the automobile; figure the national income of that date; and then imagine yourself trying to prove that by 1926, 20,000,000 automobiles would be operating on the highways of America! You might possibly have satisfied yourself that the national income could support 2,000,000 or 3,000,000. But then you would have quit in disgust, exclaiming: "Well, we can't possibly get enough gasoline, so I will revise my figures downward."

Problem Always Solved

The point is that the race has never attempted to solve these problems of the long future every time it has made something, or every time it has bought something. The modern housewife considers herself lucky if the style of the dress or the hat she bought is not changed by the time she gets home with it. Did you ever hear anyone complain in the early days of the automobile because he got a two-lunged Cadillac and then throw it away? No, he got his money's worth for it. People have thrown away their stoves and put in furnaces. They did not feel aggrieved; they felt relieved. People buy automobiles, and the paint gets injured or a new model comes out. They trade them in and buy others. The spirit of the times is well expressed in an advertisement in the New York Times, of April 2, entitled, "Is New York Over-Built?":

"Nothing is more typical of 1926 New York than the widespread restless cry for the new thing. No one wants a 1918 automobile, a 1915 suit of clothes, or an 1896 office or apartment. The result is an obsolescence in buildings, cars, clothes —everything—more rapid in New York than that found in other countries, or even other sections of our own country.

"The building industry, and city real estate in general, obey the same economic laws that govern all lines of business. Naturally while much of the building activity of the last five or six years has grown out of the shortage caused by the war, perhaps even more has it grown out of that ceaseless American urge for better and yet better business and housing accommodations, replacing old structures with new ones.

"That ceaseless American urge a century ago expressed its resistless energies in spanning a continent. Today in our cities it is expressed rather in the steady improvement of housing and business conditions, of time and labor-saving devices, of those attributes of physical comfort and economy which form one of the keynotes of twentieth century American civilization."

Prosperity; Not Profligacy

Are these examples of profligacy? Rather they are the proof of prosperity. Is the race headed for the poor house? We all know it means that we constantly live with more comfort and satisfaction than ever before.

If it were not for the dominating spirit of our times to seize a new thing, pay for it, and use it because it is better, and to have faith in the future, we would have an atrophy in our production, in our inventive genius, and in our industrial progress which would place us in the class with those nations where people have two baths—one by the midwife, the other by the undertaker.

The oil burner is for this restless, ambitious, and prosperous modern man. It is for the man abreast of, and in harmony with the spirit of the times. It is for him who desires comfort first, and is willing to pay for it. It is for the man who buys a good car, iceless refrigerator; who throws away the broom for the vacuum cleaner; it is for the man who has a good sized house, comfortable income, and whose primary thought is what he really gets for his money. In my judgment, that man wil be satisfied with a good oil burner, properly serviced, if before he buys it he is clearly informed as to the present economic tendencies bearing on his purchase. And these relate in part to fuel supply. The facts relative thereto give a man reasonable assurance, equal to that which he has when he buys any other utility of comparable cost and of equal convenience.

Our modern fuels are in rocks. The oil producer gets the fuel out, and leaves the rocks behind. The coal producer digs the fuel and the rocks out together. He takes the rocks along. Petroleum, being all fuel, leaves no ashes. Coal, as it contains rocks, leaves ashes behind. The ash problem, in all of its implications, is the essence of the whole matter. The rockless, the ashless fuel is the modern fuel. There is not enough of it being produced completely to displace the rock-full fuel. The question wether one shall use it, and for what purpose, is a matter of economic considerations and good

(Continued on Page 162)

*Before American Oil Burner Association, Detroit, Mich.

AMERICAN OIL BURNER ASSOCIATION TO EDUCATE PUBLIC ON OIL FUEL

DETROIT, Mich., Apr. 10.—A movement to educate the public in the advantages of oil as a burning fuel for every purpose and in the value of oil-burning equipment was formally launched at the annual convention of the American Oil Burner Association at the Book-Cadillac Hotel here April 6, 7, and 8.

Those at the convention gave their endorsement to the plans already worked out by the association headquarters for an intensive advertising campaign which will reach every home owner, church, school, teather, apartment house, store and industrial firm in the country.

To carry on this work, J. L. Jacobs of Toronto, Canada, will be the official head. He was elected president of the association. Mr. Jacobs is connected with the Fess Oil Burner Co. and has been active in the work of the association some time.

Officers Elected

Other officers elected at the convention were: John Leask of the Peabody Oil Burner Co. of New York; J. L. McCormick of Hardinge Brothers, Inc., Chicago; Phillip Bohn of the Preferred Utilities Co. of New York, and J. C. Johnson of the Johnson Oil Burner Co. of Oakland, Calif., vice presidents. J. D. Becker was reelected executive secretary.

Considering the constructive program inaugurated and the attendance and enthusiasm, the convention was rated as the most successful ever held by the association in the three years of its history. More than 1,200 representatives of oil burner manufacturers from all parts of the country were registered for the three days convention.

Although the oil burner industry has taken great strides in the past two years, speakers pointed out the necessity of the thorough educational program to compete with competing industries. It was shown that sales of oil burning equipment have more than doubled in the past two years with the business the past year amounting to $95,000,000.

Considerable interest was developed over the discussions on the probable future source of fuel supply for oil-burning equipment. Some expressed apprehension lest improved refinery processes should reduce the output of burning oils so materially that there would be no fuel available for oil burners.

Assured of Supply

However, these were assured that should the modern cracking processes limit the supply of fuel for domestic consumption, chemists and other scientists in the next few years would discover some new source of fuel. It was pointed out that already great strides had been taken in this direction.

It was along this line that R. L. Welch, general counsel of the American Petroleum Institute, addressed the convention. In his address, Mr. Welch told how the production of petroleum, its by-products, and liquid fuels from other substances will not depend in the future on natural sources now apparent, but on the demand of the consumer.

Among the speakers at the convention was H. W. Camp, superintendent of refineries of the Empire Refineries, Inc. Mr. Camp read a paper dealing with specifications of fuel for oil burners. He brought out the trend from higher gravity burning oils to heavy fuels.

During the convention, the national association members were the guests of the Michigan Oil Burner Association, of which J. E. Gray is president. A number of entertainment features were provided.

Hand Pumps on Grass Roots Wells

Interesting Experiment in Restoration of Pressure in Miniature Field on the Southern Edge of Coffeyville

By C. D. Lockwood

If I hadn't seen it I wouldn't have believed it. But there it was as big as life and twice as natural, an actual bona fide oil well, if the stains on the miniature, galvanized-iron flow tank and around the tiny slush pit were as genuine as they looked. And yet the thing was all rigged up with a curious, nondescript outfit bearing more resemblance to the pump on the old water well back home on the farm than to an oil producer in this day and age of record-breaking holes, 4,000 to 5,000 feet in depth, equipped with massive long-stroke pumps which are driven by machinery that looks like the power room of a factory. The pump on this well has a stroke depending on the size, ambition and energy of the pumper for the only motive power on the property is genuine old-fashioned elbow grease, supplied two or three times a day if the workers around the lease aren't too busy.

Believe it or not but this well belongs to the Marland Oil Co. and was drilled in 1926, A. D. The hand pump looks like one of the well-known pitcher variety but is equipped with tubing and rods.

The oil pool in which this curious contraption is located lies just south of the city limits of Coffeyville, Kans., and is, so far as the writer knows, unique in the entire Mid-Continent region. Fifty-foot wells producing half a barrel of crude daily are not uncommon in Ohio and Pennsylvania and in some other parts of the United States, but if anyone were to tell you that the owner of this "grass roots" pool is one of the largest operating concerns in the country, a concern owning or controling a daily average production of more than 40,000 bbls., your attitude might very pardonably be one of skepticism.

Recovery From Shallow Sands

It is a fact, however, that the Marland Refining Co. is the proud possessor of some 50 or more of these shallow wells, having taken over a block of approximately 1,800 acres south and west of Coffeyville, in Montgomery County, last October. The purpose, of course, was to conduct experiments in the recovery of oil from shallow sands which can be traced over a wide area in southern Kansas and northern Oklahoma, presumably in anticipation of the future day when small but steady output will be highly valuable, due to the decline of large flush fields and the failure to find additional Golcondas to take their places. The Marland Refining Co. is undoubtedly looking several years in the future even though this shallow production may prove to be reasonably profitable now, but it is gratifying to note that within the industry itself some thought is being given to problems beyond the immediate present.

Since the pool is in the nature of an experiment conducted under the supervision of the Marland research department little definite data or information concerning it is available. The wells vary from 50 feet in depth on one side of the block to 125 feet in another portion of the area, and are producing from a sand which is locally called the Wayside but which is more widely known in other parts of southern Kansas and northern Oklahoma as the Peru. There is a good body of this sand, 15 feet or more, sufficient to hold a large quantity of oil and it is well saturated although containing very little gas. The pressure, too, at that depth is naturally insignificant.

The real motive behind the Marland experiments is the application of gas or air pressure to this shallow sand on the theory that the wells which now produce about half a barrel of oil daily by pumping can be made to yield at least a barrel or possibly two barrels daily under artificial pressure. When the writer visited this post-hole pool recently some of the pressure apparatus was already on the ground but had not been connected up. Experiences at Alluwe, Okla., and in other old areas where pressure has been restored to the sand indicated that from 100 to several hundred per cent increases may be expected if artificial pressure is employed under the proper conditions. The wells, too, should be long-lived due to the thickness of the sand reservoir.

Running tubing in one of these high-powered wells calls for heavy equipment as the above photo shows.

The quality of the oil adds to the attractiveness of the experiment as most of it tests around 35 to 36 degrees Baume gravity, although some in one part of the pool runs as low as 32 degrees.

Spaced 50 Feet Apart

The spacing of wells in this pool is one of the many interesting features about it. Whereas the regular standard practice in a regular oil field of average depth is to locate one or two wells to each 10 acres, the wells shown in the accompanying panoramic picture, conveniently marked for the photographer by means of shining 5-bbl. flow tanks, are spaced just about 50 feet apart. Figure it up for yourself and see if you can not put more than 150 of these post-holes on a 10-acre tract at that rate. It is understood, however, that the Marland research department intends to drill only 100 of them to each 10 acres.

I asked one of the drillers on the lease how long it took him to complete a well. "That all depends," he informed me. "We started up here yesterday evening and ought to be through a little after noon today."

The idea seems to be this: The wells are drilled with a spudding machine or water well machine, the contract price of local drillers being $1.50 per foot for 100-foot holes. Only three joints of pipe are necessary, one being 10-inch casing and the other two joints 6 inches in diameter. The pipe has been cemented in a number of the Marland wells but this may prove to be unnecessary. At any rate, the cost of putting a well on the pump in this pool is insignificant and even when multiplied by 100 may be less than the cost of drilling a well of average depth in other fields in the Mid-Continet. If these 100 wells can be made to produce 100 to 200 bbls. of 35 gravity crude oil daily, it is a profitable undertaking. Should the supply of oil in other fields diminish materially in the future, the profit might easily become well worth while.

It used to cost more to shoot wells in this sand than it did to drill them to the sand, but shooting has practically

(Continued on Page 159)

This isn't a cemetery but each white tank marks a shallow producer in a unique oil pool just south of Coffeyville, Kans. Note the close spacing of the wells.

Let our customers be your Guide

in Choosing Absorption Gasoline Plants and Equipment

THE ROLL CALL

of Purchasers and Users of Newton Equipment

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Cushing Refining & Gasoline Co.	Cushing, Oklahoma	1
Cushing Refining & Gasoline Co.	Blackwell, Oklahoma	1
Cowen Oil & Refining Company	Los Angeles, Cal.	2
Central Oil Company	Los Angeles, Cal.	1
Dixie Oil Co. (Standard of Indiana)	Chicago, Illinois	2
Daugherty Company, Inc. H. K.	Bradford, Pa.	1
Gilliland Oil Company	Tulsa, Oklahoma	2
Harland Oil Company	Tulsa, Oklahoma	2
Huber Company, J. M.	Swartz, Louisiana	1
Hur-Bar Gasoline Company	Tulsa, Oklahoma	1
Hurley-Texas Gasoline Company	Tulsa, Oklahoma	1
Hurley Gasoline Company	Tulsa, Oklahoma	2
Lewis Oil Company	Pittsburgh, Pa.	1
Manhattan Oil Company	Kansas City, Mo.	1
Natural Gas & Fuel Company	Eldorado, Ark.	1
Oklahoma-Eastern Oil Co. (Devonian)	Tulsa, Oklahoma	2
Ohio Oil Company	Shreveport, La.	2
Oklahoma Gasoline Plants, Inc.	Oklahoma City, Okla.	1
Powers, M. F.	Tulsa, Oklahoma	2
Pure Oil Company	Columbus, Ohio	1
Phillips Petroleum Company	Bartlesville, Okla.	2
Phillips Company, Waite	Tulsa, Oklahoma	1
Palmer Corporation	Shreveport, La.	1
Pacific National Gasoline Company	Los Angeles, Cal.	7
Sloan & Zook Company	Bradford, Pa.	1
Sinclair Oil & Gas Company	Tulsa, Oklahoma	1
Saint Helens Petroleum Company	Los Angeles, Cal.	4
Texas Company, The	Tulsa, Oklahoma	1
Texas and Pacific Coal & Oil Co.	Fort Worth, Texas	1
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GASOLINE AND TAXES

One hundred and fifty Sunday newspapers throughout the country printed last Sunday a full page illustrated feature article, the first result of the appointment of a Public Relations Committee by the American Petroleum Institute at the Fort Worth meeting a year ago to tell the public the story of oil.

It is an excellent beginning, proving the readiness of the newspapers to accept and publish suitable and interesting information about the oil business and its relations with the public. It was presented in a way to attract popular attention, to interest as well as to inform.

When The Oil and Gas Journal nearly three years ago initiated the movement to have the industry counter the political campaigns against it by putting the facts about oil before the public and marshalled those facts in "The Oil Industry's Answer" it was emphasized that the people to be reached were the consumers of our major product, the motorists buying gasoline at the filling stations.

The A. P. I. Public Relations Committee is following that course, its first article, by Judson C. Welliver, being designed to reach and interest chiefly the users of automobiles.

The title "A Billion Dollars in Tolls Yearly Provide Modern Highways" has the popular appeal of magnitude. A billion dollars will always command attention. The idea of tolls on modern highways rather startles since toll gates and toll bridges have been relegated to the past. But the picture of the filling station as the toll gate of today offers an angle that probably few motorists have thought of.

The continual harping upon the cost of gasoline has been the chief stock in trade of the politicians who have been most active in proposing government interference with the oil business. "The Oil Industry's Answer" furnished a complete contradiction of that lie by showing from government figures that gasoline was the cheapest commodity before the war, during the war, and since; a fact that every oil speaker and advertisement has hammered home for the past two years.

What the public has next needed to appreciate is how large a part of the money paid for gasoline at the filling station is a highway toll added by the State and over which the oil industry has no control whatever.

Mr. Welliver's article shows that outside the four populous States of New York, New Jersey, Illinois and Massachusetts which have not yet levied a tax on gasoline, the gasoline tax collected last year amounted to $143,000,000, or about double that collected in 1924.

As approximately one-fourth of the cars in the country were used in the four States having no gasoline tax the same tax applied to them would have increased the total to about $180,000,000 and as it is almost certain they will soon levy a tax on gasoline it is reasonably estimated the total gasoline taxation for 1926 will approach $200,000,000 that will be included in the price at the filling station, but without a cent of revenue to the oil industry. Instead, indeed, the industry will be out of pocket for the service of collecting the tax and turning it over to the State, which has imposed on the industry the duty of toll collector on the highways.

But, as Mr. Welliver's article shows, the gasoline tax is only a part of the toll paid by the automobile user. Motor vehicle license fees and drivers' license fees collect $263,500,000 more yearly.

Property taxes levied on motor cars have been calculated by the United States Bureau of Public Roads at $150,000,000.

Federal internal revenue taxes on cars, parts and accessories amount to as much as the tax on gasoline, $143,430,709.

Wheelage and other local taxes on motor vehicles run up another $50,000,000.

There is a total of $749,930,709 in taxation collected from the motorists and motor vehicle owners of America every year.

Divided among the 20,000,000 car and truck owners it figures out an average of about $37 a year.

Since the average gasoline bill per individual motorist without the tax on gasoline, is below $70 a year, it can be seen that he pays more than half as much in taxation as he does for his motor fuel.

In other words, for every dollar he spends for gasoline to run his car he pays out over 50 cents for building or maintaining the improved roads he rides over, and this exclusive of city streets.

This, Mr. Welliver points out, does not include the taxes paid by the automotive industry or on building and property devoted to motor car merchandising, nor the state, local, production, corporation, or income taxes paid by the petroleum industry, which aggregate $345,000,000, all of which in turn is necessarily part of the price the users of motor vehicles and motor fuel have to pay for the privilege of riding over the highways of the nation.

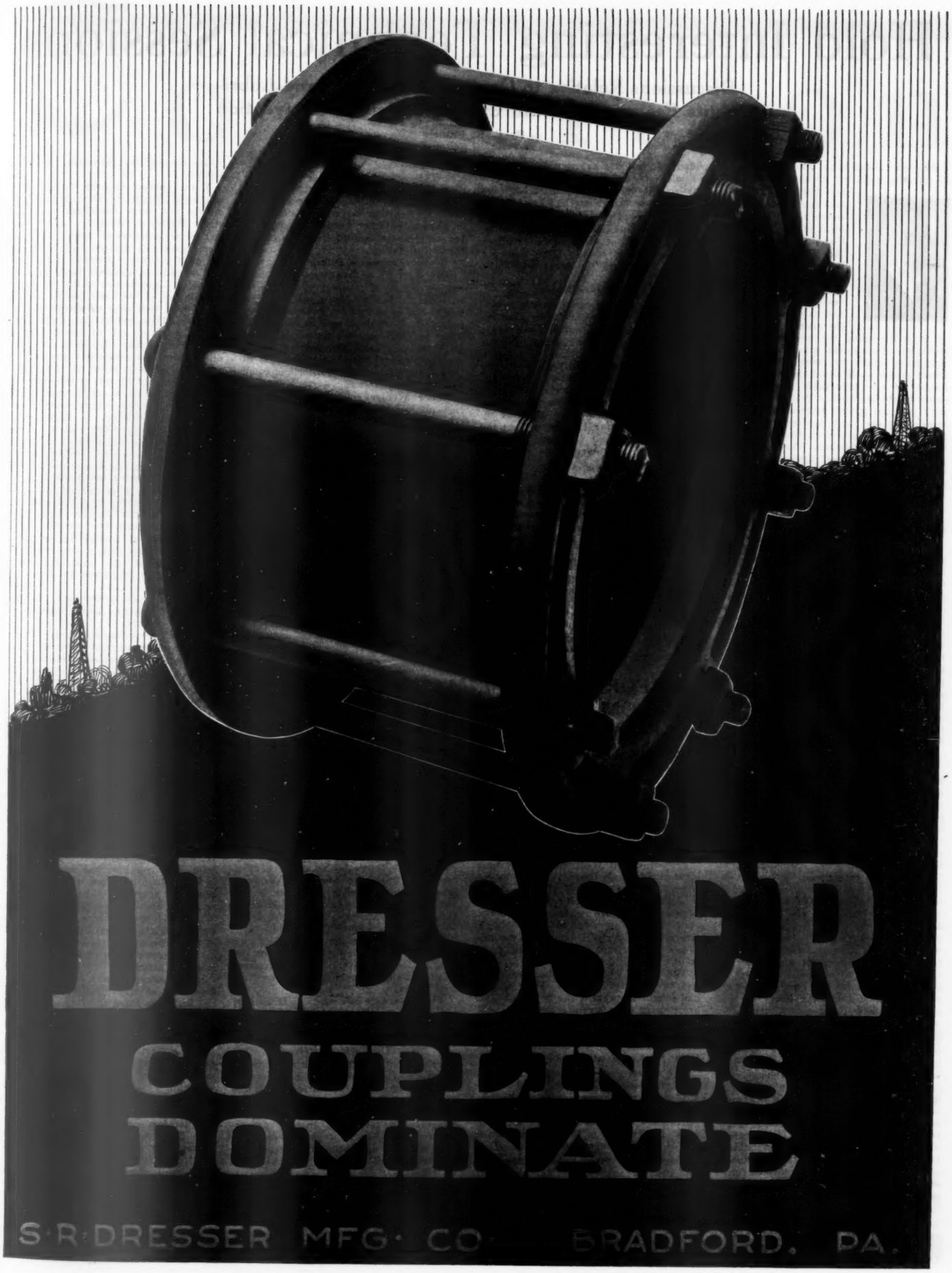
Not the least interesting fact brought out is that while the country is now spending a billion dollars a year on roads, or as much as the whole cost of Government before the war, it took nearly a century to invest $20,000,000,000 in our national railroad system. In less than 20 years we shall have spent as much on our highways as we expended on our railroads in a century.

And the motor users and gasoline users are footing the bill.

Uncle Sam's federal aid to the road program costs but $96,000,000 a year while he collects from taxes on cars, parts and accessories $50,000,000 more than that. Even when you get something from the Federal Government you never get it for nothing.

The millions of readers of the 150 Sunday papers which printed Mr. Welliver's instructive and interesting article will have a new conception of the cost of "joy riding" altogether different from the notion so assiduously fostered by the political spellbinders who shout about the cost of gasoline.

And the public gets its money's worth in service for what is paid the oil industry for gasoline, which, unfortunately, cannot always be said of the toll collected for road improvement.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Hold Interesting Technical Sessions

Discussions Relative to Quality Motor Fuels and Lubricants Feature American Chemical Society's Convention

By C. K. Francis
Technical Editor

American chemists are leading the world in scientific research within the field of petroleum. This opinion expressed by Dr. James F. Norris, president of the American Chemical Society, at the Tulsa convention last week, was formed after years of contact with the foremost investigators of Europe and America. It was the unanimous opinion of those attending the meeting that no collection of technical papers relating to petroleum has ever been brought together which could equal the variety and quality of the remarkable program presented by the Division of Petroleum Chemistry and the special symposium on lubrication at the joint meeting of the Industrial and Engineering Chemistry and the Petroleum Divisions. The list of papers was indeed most comprehensive. It is a rule of this society that the papers read become their property for printing in their journals, therefore, it is possible to present only a brief summary and to mention some of the outstanding features.

There was ample evidence of fundamental research which will undoubtedly have considerable influence in advancing the progress of the refining industry. The character of the papers and the freedom of discussion were typical of the attitude of mind existing in the industry at this time and that of a very few years ago. While great strides have been made during the past 10 years, nobody questions the prediction that even greater progress will be made in the next five years. The petroleum technologists realize that by the presentation of fundamental truths and the interchange of ideas the individual gains, as does the industry.

Petroleum Division

The Petroleum Division of the American Chemical Society was the largest division in point of numbers at the convention. The large gatherings, frequently over 500, were presided over by Chairman R. R. Matthews, Roxana Petroleum Corp., St. Louis. Dr. R. E. Wilson, director of research for the Standard Oil Co. of Indiana, with headquarters at Whiting, was chairman of the symposium on lubrication. In expressing his appreciation for the large number in attendance, he declared that the colleges and universities which have always been leaders in research matters, have been backward in pushing petroleum chemistry and technology. The foremost authorities on the subject are to be found actively engaged in the industry. Very few realize that petroleum chemistry offers perhaps a greater field for research than any other.

It was generally agreed by the petroleum chemists that many new uses for petroleum were in sight. The near future may see a demand for petroleum fractions which are now of little value. The public address by Dr. Arthur D. Little, presented before a large audience, emphasized the diversified possibilities of petroleum. His subject was "The Romance of Carbon." He traced the history of carbon from its presence in the atmosphere of earliest geological times through charcoal, the diamond, coal, to natural gas and petroleum. He said:

"A new phase of great significance is now confronting the industry, for petroleum is about to take its place as a raw material of the first importance in the synthesis of organic chemical compounds. It is today the source of numerous alcohols and their derivatives and may soon provide the cheapest base for the synthesis of rubber."

There were 44 papers presented, before the two divisions, which were devoted to petroleum. All of them were excellent and the interest of the large audience was maintained to the very end of the program.

Lubrication Tests

Some new developments in the hydrodynamical theory of lubrication were explained by H. A. S. Howarth. The graphic method for investigating types of bearings was demonstrated. E. G. Gilson, under the title "Some Little Understood Factors Affecting Lubrication," discussed oil structure as based on the results obtained with a novel machine. The charge of oil is placed in a bowl which is rotated. The centrifugal force spreads the oil over the vertical wall, and the film, thus exposed, is studied.

When this machine is run in an atmosphere of hydrogen, instead of air, we get entirely different values. The friction and temperature values for all mineral oils tried are, with one exception, much higher. This exception has slight decreased friction but must higher temperature.

In general, the oils do not sludge, nor change color, perceptibly, in the hydrogen atmosphere while they do blacken and sludge very badly in air. To this, among the oils tried, there is also an exception, but in this case the friction goes up in the hydrogen atmosphere although the oil blackens and sludges worse than in air. These things would tend to indicate that for minimum friction a reaction within the oil itself is necessary and that this reaction is probably dependent on oxygen. In other words, the surrounding atmosphere has an influence on the friction of the oil.

Crankcase Dilution

The dilution of crankcase oils with the heavy ends of gasoline constitutes the outstanding present-day problem in the lubrication of automotive engines, according to R. E. Wilson and R. E. Wilkin. Their paper presented a theoretical analysis of dilution and the development of the fundamental laws, assuming that dilution approaches an equilibrium condition in the crankcase.

Under average conditions, the crankcase oil loses about one-third of its viscosity in the first 150 miles of winter service and for further service remains practically unchanged. In order to make an oil which will give satisfactory starting and cold lubrication and at the same time have sufficient viscosity at all times in the average car, it is suggested that a heavy oil of from 425 to 525 sec. viscosity at 37.8 degrees Centigrade (100 degrees Fahrenheit) be blended with 10 to 12 per cent of a distillate having a boiling range substantially identical with that found in the average crankcase at equilibrium. By this means it is possible to produce an oil with an initial viscosity of about 200 sec. which gives easy starting and adequate cold lubrication and yet is so near the average equilibrium dilution that in general it maintains an optimum viscosity throughout its entire service.

Motor carbon deposits formed under controlled conditions from typical automobile oils were described by Livingstone, Marley & Gruse.

Typical commercial motor oils made from crude oils derived from several of the chief producing areas of the country, and of matched viscosity have been compared in a special motor, for the amount and nature of "carbon" deposit obtained with both rich and comparatively lean mixtures. These experiments indicate that under a given set of conditions, the amount of "carbon" deposited per unit of oil consumed is reasonably constant and reproducible for a given oil and approximately constant for oils of the same type.

Oil flow, surface action, and lubrication were subjects which were reported by D. P. Barnard, A. E. Becker, P. L. Scott, R. R. Matthews and F. Norton. The relation between physical and chemical properties of oil and their lubricating value were shown by Parsons and Taylor.

Cracking Discussed

The cracking of petroleum oils was interestingly described by Leslie and Patthoff. The special factors, temperature, pressure and time were investigated.

The industrial possibilities of the alcohols from petroleum, a subject which is going to be of vast importance to the industry, were discussed by Davis and Murray.

Tonkawa crude, according to the paper by N. A. Stephens, yields cyclohydrocarbons and olefines.

The subject of specific heats was reported by Fortsch and Whitman. Their results may be expressed by the equation:

$$C = \frac{(t-670)\ (2.10-Sp.\ Gr.\ 60°)}{2030}$$

Where C = the specific heat
t = the temperature in °F.
Sp. Gr. 60 = the specific gravity of the oil at 60° F.

This equation applies to liquid oils up to their boiling points, and fits the data with an average deviation of less than 2.5 per cent.

The subject of gum formation in gasoline is of increasing importance. It was linked with color by Dr. B. T. Brooks. Discoloration may result from mere traces of acidity which develop in gasolines and kerosenes originally neutral and of good color. This condition has been found even in straightrun gasolines which have never been acid treated. Oxidation by air does not cause discoloration of either saturated or cracked hydrocarbons, by themselves, even when the normal oxidation products of the hydrocarbons themselves are added, or have accumulated in the oil to a considerable extent.

Gum formation is a perfectly normal oxidation of unsaturated hydrocarbons, the first step being the formation of peroxides, in fact "gum," when freshly formed is essentially a mixture of peroxides; ketones, aldehydes and organic acids are also formed, forming the well-known fluid mixtures known as gum. The formation of peroxide is connected with the oxidation of other substances, including sulphur compounds, so that in this way the oil is "sweetened," followed by the development of sufficient acidity to form the cloudy appearance often noted, followed by discoloration caused by this acidity.

Photomicrographs of wax by Padgett and Hefley introduced a series of studies showing size and structure of wax crystals. The size varies with viscosity of medium and rate of cooling.

Egloff and Merrell described methods for determining hydrocarbons and their

(Continued on Page 147)

CALIFORNIA LOSS 7,700,000 BARRELS FROM FIRES AT UNION'S TANK FARMS

By L. P. Stockman

LOS ANGELES, Calif., Apr. 10.—The fires at the tank farms of the Union Oil Co. at San Luis Obispo and Brea caused a loss of 5,700,000 bbls. of crude oil, fuel oil, tops and refined oil at San Luis Obispo, and 2,100,000 bbls. at Brea. The loss is estimated at $10,000,000 or $12,000,000, partially covered by insurance.

Fire broke out Wednesday at the tank farm at San Luis Obispo, said to be the largest in the world, at 7:45 a. m., when, it is believed, a bolt of lightning struck between two huge underground tanks. With the boiling over of Tank No. 1, rivers of blazing oil poured down the slopes of the tank farm, located on a knoll.

The boiling over of the burning tanks had been feared all day. Fire fighters had fought to prevent the crude oil from overflowing from steam generated by the heat. With the boiling over of the oil an underground tank with a capacity of 500,000 bbls. and 50 surface tanks of 5,500 bbls. each were endangered.

The flames broke out first in Tank No. 5, containing 699,254 bbls., and then spread in quick succession to Tanks Nos. 3, 6 and 7, two of which have a capacity of 750,000 bbls. and the third 1,000,000 bbls. Fire spread to the fifth tank later. All of the containers were full of oil.

Steel sheets were imbedded in the earth and strengthened with dirt mounds. Earth embankments were thrown up at every advantageous spot with a steam shovel, and a protecting wall was built between the fire and the tank house in order that a part of the oil might be salvaged.

The tank farm in all, comprises 300 acres, and the oil stored in the field is piped from a number of distant sections, including Kern County and the Ventura fields.

Around the reservoirs the ground was strewn with splintered timber caused by the explosions that blew the tops off two reservoirs. Tar paper covered the wooden coverings of the reservoirs.

Heralded by a series of thunderous explosions in Reservoir No. 2, a flaming sea of oil burst the bounds of the tank farm Thursday night. Reservoir No. 2 was one of the largest of the six great storage lakes aflame on the tank farm. Its capacity is 1,250,000 bbls.

The blaze among the small surface tanks meanwhile had spread until at the time of the overflow 12 tanks, exclusive of the six great reservoirs, were seething pots of fire.

Two lives were lost when A. H. Seeber, a Civil War veteran, and his son, William F. Seeber, were killed in an explosion.

The Fire at Brea

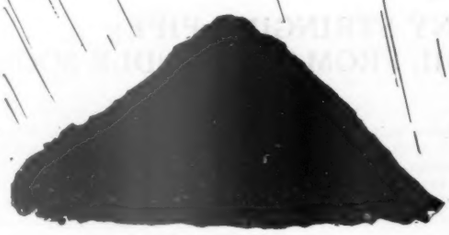
The fire at the Brea tank farm of the Union Oil Co. Thursday night spread to a 750,000-bbl. crude oil surface tank, the third such structure to break into flames. A bolt of lightning fired two 20-acre underground reservoirs, causing an explosion that rocked the surrounding neighborhood and property damage expected to reach a total of approximately $3,000,000.

By the spread of the flames to the storage tank, the entire tank farm was seriously threatened. Three huge tanks containing gasoline, kerosene and distillate were near the surface storage tank.

In an effort to save the huge surface

(Continued on Page 147)

Conversion of waste into profit



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Fernholtz Briquetting Process

BETTER BALANCING OF MARKETS BY CALIFORNIA OIL MERGERS

By L. P. Stockman

LOS ANGELES, Calif., Apr. 10.—At the nineteenth annual banquet of the Chamber of Mines and Oil held at the Ambassador Hotel this week the members applauded a message from Paul Shoup, vice president of the Tidewater-Associated Co., read by L. J. King, vice president of the Associated company, and addresses by Chester W. Brown, director of lands and exploration of the Union Oil Co., the new president of the chamber, and R. H. Ballard, executive vice president and general manager of the California Edison Co. Allen E. Morphy, vice president of the Pacific Gasoline Co., was toastmaster.

Mr. Shoup in his telegram from New York said:

"The Chamber of Mines and Oil serves many useful purposes and most useful purpose of all should be facility it offers for making men in the industry known to each other in establishing human relationship, in creating points of contact and such harmony as to make operation of industry as a whole one of friendly feelings, one of service and one of success. We have that reservoir known as consumption of oil into which we pour our contributions. We are continually getting better knowledge as to rise and lowering of level in this reservoir according to demand and more nearly accurate anticipation of the future of that level but we have not yet attained that personal relationship to the extent that we should that will keep us from jostling our neighbor overmuch in our making our contributions from our own wells and our own refineries taking up too much space at the ringside as it were and demanding larger reservation in some capacity than we can reasonably expect.

"I realize, of course, that there are some things in the anti-trust laws that prevent us actually joining hands around the ring as would lead to best understanding. In union there is strength but the anti-trust theory goes farther and at times suggests there is too much strength and without doubt these anti-trust laws were born of the demonstration of that fact and of that strength being at times unwisely used. But on the other hand no legislation was intended to promote wastefulness and destroy or create destructive rivalries.

"No legislation was intended for example to create a situation such as that as exists in California today with the very great increase in cost that has developed in the marketing of gasoline. You know at times recently it has cost nearly as much to market gasoline as it has to buy the oil and manufacture it. In such a situation both public oil men and the industry itself suffer. Chamber of Mines and Oil as an independent body representing all views and responsive to no single influence alone should examine these practices and without criticism but with constructive action seek to devise ways and means to remedy such conditions.

"The people do not want laws that impose upon the people themselves unnecessary burdens of expense. If then it be necessary to reconstruct our laws to meet the evolution in business and public relationships they should be reconstructed. A way should be found to maintain a reasonable competition. The outlook for the industry in the United States at this time is satisfactory. How the industry conducts itself in bringing in a greatly increased production or refining a great deal more oil than it otherwise would because of this cheerful outlook will measure just what this cheerful outlook means in the way of fruit.

"My friend Mr. Jensen tells me that California production by midsummer will drop below 600,000 bbls. a day. The prospect elsewhere in sources of supply for United States is not one of overproduction. If, however, each company insists, regardless of its present situation upon endeavoring to equal its earnings the first six or eight months of last year by enlarging upon its production of oil or its manufactured production therefrom, it will be very easy to produce red figures as flaring but less pleasing than those of our autumn forests.

"There is a better understanding by the public of the oil industry than there was a year ago. There is a realization that it is a mining business, subject to all hazards of mining and that of thousands of companies organized with earnest and honest intent the majority are overwhelmed by vicissitudes of fortune. There is a better realization that the industry is to be encouraged constantly if pioneering is to continue and our supply maintained. There is better understanding of conservation as meaning in its best definition not only a policy looking toward efficient use of oil but the finding of more oil. There has been a belief heretofore advocated that would put a premium upon companies of strongest financial standing getting any oil producing lands and putting them in cold storage, omitting expenditures for pioneer work on any large scale. That policy does not have the hold it had upon the minds of the people.

"The Panama Canal has tied the East and West Coast branches of the industry together. They are now a unit. Association of East and West companies in a common interest is tribute to that fact. It is a natural condition that Atlantic Coast, Mid-Continent and Pacific Coast companies should now have common ownership or work in complete harmony. Such association means the better balancing of markets supplies of oils where oil is needed with the minimum of transportation movement from producer to consumer and lessening the expenses and to increase in efficiency all the way around. There has been too much of the carrying coals to Newcastle in the oil business. Too many tankers have been passing each other in midocean loaded with same commodity. This waste in time and money and energy will be minimized in these new associations. It is a first essential that where economies can be gained in the operation of an industry they should be, to the end that cost of the article should be reasonable and whatever is gained through efficient management is almost certain in the end shared by both producer and consumer."

President Brown commended the retiring officers of the organization, announcing that the membership of the organization had been increased 60 per cent during the past six months, due to the untiring efforts of the past president, A. B. Macbeth and Edwin Higgins, the secretary, to the activities of the Wildcats, and to the work of the Chamber of Mines and Oil staff. In point of general interest and strength, the chamber has never been so happily situated.

OTIS M'CLINTOCK WILL JOIN WAITE PHILLIPS

R. Otis McClintock, third vice president of the Gypsy Oil Co. and the Gulf Pipe Line Co. of Oklahoma, has resigned his connection with both companies to take effect April 30 and will then join Waite Phillips in the oil business.

Mr. McClintock will be succeeded by Rush Greenslade, now head of the land department. Frank Bridges and J. D. Iams will be advanced to the positions of assistants to the vice president.

Mr. McClintock has been with the Gypsy Oil Co. since 1909. When he entered the company's employ he was put to work in the warehouse at Glenn Pool. He was made a vice president in 1916. Mr. Greenslade has been with the legal and land department of the company for about 13 years.

Waite Phillips recently sold the Waite Phillips Co. to Blair & Co. and it later became a part of a merger with the Barnsdall Oil Corp. Mr. Phillips and one of his former executives, Gillette Hill, together with Mr. McClintock will form the nucleus of a firm or a company that will take an active part in the oil business. They have no definite plans as yet.

DEATH OF EDWARD O'ROURKE

Edward O'Rourke, age 74 years, who had been in the oil business, 54 years and was one of the best known contractors and oil producers in the Oklahoma Field, died at his home in Tulsa Saturday morning, April 10, of Bright's disease.

Mr. O'Rourke was 20 years old when he went to the Pennsylvania oil region, first working in the territory near Oil Creek. He went to Bradford in the height of the excitement in that field in the late 70's, and remained there until the Kane Field, in McKean County, was opened. He moved to Kane and operated and drilled there for the next 30 years, coming to Oklahoma in 1913. He and his sons had great success in the Bristow Field in Creek County, where they opened a pool in Section 33-16-9, which yielded large production. Mr. O'Rourke was married to Florence Murphy in Bradford in 1878. Thomas O'Rourke, Edward W. O'Rourke and Miss Lena O'Rourke are surviving children.

J. C. HILTON DIES SUDDENLY

John C. Hilton, a member of the staff of the George L. Dyer Co., advertising agents of New York, was killed last Friday morning when he fell from his office on the twentieth floor of the Murray Hill Building, New York. Mr. Hilton had not been feeling well for several days and it is thought he fell when he leaned from the window to get fresh air. He was well known among representatives of petroleum publications.

SHOWING WEST OF MEXIA

CORSICANA, Tex., Apr. 13. — The Transcontinental Oil Co. has set pipe at 2,875 feet in its wildcat test west of Mexia. A core said to contain a favorable showing of oil was taken from the top of the Woodbine sand at the depth named. The well will not be drilled in for another 10 days.

GULF COMPANY STRINGING PIPE; TO MOVE OIL FROM PANHANDLE SOON

AMARILLO, Tex., Apr. 10.—The Gulf Pipe Line Co. is stringing pipe on both ends of its line which is soon to be moving oil out of the Panhandle producing territory. The line is to run from the Dial district north of the Canadian River, south to the town of Panhandle, on the Santa Fe Railroad.

One of the best wells of the week in the Panhandle area is the Newby Oil Co.'s No. 1 Cockrell, which has not yet been completed, but is showing up for an unusually good producer. It is making 400 bbls. flush from the pay at 2,950 to 3,031 feet after having been given a shot of 120 quarts. This is, so far, the largest producer that has been brought in on the Cockrell ranch.

Following a shot of 120 quarts of nitro and as it now stands the American Refining Co.'s No. 1 J. A. Whittenburg gives promise of being one of the real good producers on the Whittenburg ranch. It was shot at 2,790 to 2,800 feet and the first 12 hours following the shot flowed 150 bbls. The total depth is now 2,808 feet.

Skelly Oil Co. has two good producers on the Whittenburg lands, Nos. 1 and 4. The first is producing an estimated 200 bbls. daily after having been given three small shots in the pay at 2,938 to 2,948 feet, while No. 4 is estimated making 100 bbls. daily following a shot of 120 quarts placed at 2,891 to 2,911 feet.

The White Eagle Oil & Refining Co.'s No. 1 Smith is also one of the good new producers reported this week, although it was showing some oil a week ago. So far the well has 11 feet of pay at a total depth of 2,833 feet. When first drilled in the well flowed 16 hours at the rate of 15 bbls. an hour.

The best completion in the territory is the Spring Creek Oil Co.'s No. 1 J. A. Whittenburg, which is making 500 bbls. flush at a total depth of 2,996 feet. The Trevelers Oil Co.'s No. 1 Kingsland has been given a shot of 200 quarts of nitro at 2,870 to 2,930 feet and is making about 50 bbls. daily. Just after the shot the well flowed at the rate of 60 bbls. an hour through the bridge. Smith and others' No. 1 J. A. Whittenburg is estimated good for 120 bbls. at 2,860 to 2,883 feet.

Phillips Petroleum Co. and Coble interests' No. 2 J. A. Whittenburg is a new producer good for 360 bbls. daily from the pay at 2,907 to 2,925 feet. The No. 1 J. A. Whittenburg of the Phillips Petroleum Co. and Gibson Oil Corp. has been shot with 90 quarts of nitro at 2,902 to 2,940 feet and is swabbing 45 bbls. daily. The first 24 hours following the shot it flowed 100 bbls. The No. 2 J. A. Whittenburg, of the same operators, is swabbing 200 bbls. daily from 2,930 to 2,938 feet. The No. 1 J. A. Whittenburg of Phillips Petroleum Co. and McMillen made 240 bbls. the first 24 hours and is flowing through the bradenhead, making 30 bbls. daily.

Holmes and others' No. 1 Smith promises to be one of the good producers of the field. When first drilled in it made 195 bbls. the first day. It is shut down for storage and pipe line connections but is spraying 10 bbls. an hour. Lenix and others' No. 1 Smith is spraying 5 bbls. an hour while workmen are fishing for a lost bit at 2,930 feet.

Currie Brothers' No. 1 Smith has reached a total depth of 2,930 feet and lost the tools for which drillers are now fishing. At this depth the wells is spraying 90 bbls. daily. The Drysdale Oil Co.'s No. 1 Weatherly is showing considerable oil but is shut down for orders. It has 600 feet of oil in the hole at 3,156 feet. Dunnigan and others' No. 1 J. A. Whittenburg has 2,300 feet of oil in the hole at 3,017 feet and the hole is caving badly.

The Golding Phillips Oil Co.'s No. 1 Hodges is making 9,000,000 feet of gas daily and still drilling at 2,670 feet. The Canyon Oil Co.'s No. 2 J. A. Whittenburg is making 8,000,000 feet of gas at 2,280 to 2,390 feet and drilling at 2,590 feet. The Badger Oil Co.'s No. 1 Lewis had a showing of oil at 2,862 feet and is drilling at 2,870 feet.

The Dixon Creek Oil Co. has made 12 new locations on its H. E. Smith lease. This company is spudding its No. 5 well on this lease.

In Carson County, the Marland Oil Co.'s No. 1-A Burnett is estimated making 200 bbls. at 3,122 to 3,125 feet and is shut down for pipe line connections and storage. Same company's No. 1-A Burnett is making an estimated 10,000,000 feet of gas at 2,415 to 2,670 feet.

Amarillo Oil Co.'s No. 3-B Bivins, also in Carson County, is estimated 100 bbls. at 3,066 feet. It is also making 25,000,000 feet of gas daily. Conden is making preparations to complete his No. 1 Burnett as a gasser. It is making a total of 60,000,000 feet, the gas coming from various depths ranging from 2,100 feet to 2,500 feet. Culbertson Brothers' No. 1 Burnett may also be completed as a gasser. It is making 75,000,000 feet at 2,680 feet.

In Gray County, the Empire Gas & Fuel Co.'s No. 1 Heitholt is estimated good for 15 bbls. It was shot at 3,164 to 3,228 feet. It may be drilled deeper. In the same county, The Texas Company's No. 2 Saunders is reported to have had a showing of gas at 2,019 feet. It is now drilling at 2,100 feet.

Midwest Exploration Co.'s No. 2 Porter, drilling at 1,310 feet; Vaughan and others' No. 1 O.Gorman, 550 feet.

Developments Forecast More Activity

Discovery New Pool in Southwest Texas and Good Producer from Tonkawa Sand at Garber Stimulate Drilling

The opening of a new oil field in the Mirando territory of southwest Texas; the possibility that operators controlling acreage in the Inglewood Pool in California may reach an agreement for a conservative development of the new deep producing zone there; the completion of a number of good wells in the Garber Field in Oklahoma, especially a 4,500-bbl. producer from the Tonkawa sand there; a partial recovery in the Gulf Coast area from effects of the recent disastrous storm in that territory, and the bringing in of a well in the old Spindletop Pool making 6,000 bbls. initial from a horizon 720 feet lower than a deep well completed there last January were high spots in oil field developments in the United States during the past week.

Oklahoma

The deep sand development in the Wewoka Field and the finding of other producing horizons in the prolific Garber Field continue to be the centers of interest in Oklahoma. The Roxana Petroleum Corp. completed a well in the Tonkawa sand at Garber which flowed 3,086 bbls. during the 24 hours ending Tuesday of this week. Production of the Garber Field is expected to be maintained at somewhat near its present level during the coming summer by the output of the Tonkawa, Hoover and Layton sands where it is believed 100 wells may be drilled to these horizons. The new development at Garber is serving to offset the decline in the Sinclair Oil & Gas Co.'s No. 27 Hartley, Oklahoma's record initial producer. It gauged 5,977 bbls. of oil and 7,000 bbls. of water Monday morning. The deep sand producers in the Wewoka Field are holding up remarkably well and these wells produced 23,568 bbls. during the 24 hours ending Tuesday morning of this week. The well of the Dixie Oil Co. just west of the Wewoka Field is turning out better than expected, it gauging 840 bbls. for the 24 hours ending Monday.

Rocky Mountain Area

Despite the many difficulties confronting operators desirous of developing the territory around the Cane Creek well of the Midwest Refining Co. and the Utah Southern Oil Co., near Moab, Utah, it is probable that area will be the scene of much activity as a result of the good production developed by the Cane Creek well. The topography of the country is such the only means of reaching the well is by a small gasoline boat down the Grand River. Another story, starting on page 39 of this issue, tells of some of the handicaps to development of the area. Lack of storage facilities in the Sunburst Field in Montana, which resulted in proration last December, has been largely overcome by the erection of considerable new tankage and it is believed the situation now can be handled without resorting to proration in the future.

Gulf Coast

Spindletop broke into the limelight with the Yount-Lee Oil Co.'s No. 4 McFaddin credited as high as 6,000 bbls. flush. With the flush off it was reported flowing 3,000 bbls. of 24 gravity oil at 3,500 feet. The sand is 720 feet lower than in No. 3 McFaddin which came in January 13 flowing 5,000 bbls. and kept it up for several weeks.

Atlantic Oil Producing Co. succeeded in working over No. 2 Taylor in the Boling Pool and it came back making 1,200 bbls. 25 gravity. Operators have switched to the northwest of production following the lead of the Gulf Production Co. Vacuum Oil Co. has the deepest hole in the pool, No. 1 Hooper, at 4,043 feet.

Kansas

The shoestring districts of Greenwood County, Kansas, maintained their lead in development activities in the Sunflower State, with a number of average-sized completions in various districts serving to maintain production. The Carter Oil Co. and Fleeger's well in Kingman County averaged about 140 bbls. daily last week, of which 90 to 95 bbls. was good oil.

Southwest Texas

Kitselman and St. Albans in their No. 27 Holbein appears to have opened a new pool in Jim Hogg County. It made 115 bbls. in 30 minutes. No. 1 M. E. Weber is offering the same showings. No. 29 Holbein is making 45,000,000 feet of gas.

The Balcones fault west of San Antonio through southern Bexar County is leading in wildcatting.

A number of tests have been drilled in the new Hondo Field south of Medina but with less encouraging results.

In the Piedras Pintas district of Duval County three tests are down to the depth of the discovery well, two past it and a third nearly down to it.

The Texas Company's test in Zapata Couny has cored at 3,959 feet and has a gas sand with a trace of oil.

North Central Texas

Northern Brown County has several good completions late in the week. The Texas Company's No. 2 Dunn is estimated 600 bbls. flush. No. 2 at 300 bbls. and Barkley and others, 500 bbls.

Red Bank Oil Co.'s well in Throckmorton County, is flowing 360 bbls.

Big Lake Co.'s No. 51 University, Reagan County, is making 3,470 bbls.

Upton County has one of the most important outside tests encountering showings of oil, Zoch and others' No. 1 Keith, which is shut down. It is in the Hurdle district of southwestern Upton County.

California

The future of deep drilling in the Inglewood Field appears dependent upon whether an agreement can be reached with the Associated Oil Co. to shut in its No. 2 Vickers until there is need for the oil. There is much discussion of the possibility of a third zone and the advisability of interspacing existing wells with new wells designed to drill to the lower zones later.

The flush production is over at Long Beach, most of the wells due in the next 30 days being considered likely to be small pumpers. Production in the extension is beginning to fall off rapidly.

New Mexico

Several new tests are to be started in Lea County within 30 days as a result of the opening of the Maljamar Pool 30 miles east of production. The Ohio Oil Co. is expected to take the lead in this development. The Skelly Oil Co. and Marland Co. are making extensive plans.

Canada

Increased activity is reported in western Canadian fields, notably in the Turner Valley. An important wildcat test is to be started about May 1 in the Lesser Slave Lake region, the first ever undertaken there.

Mexico

Mexico comes back with 12 producers in the past two weeks, resulting in 36,675 bbls. flush production. Transcontinental Oil Co.'s No. 22 Barbarena in the old Panuco Field is rated at 15,000 bbls.; Mexican Petroleum Co.'s No. 10 Midway in Ebano at 8,000 bbls. and Mexican Eagle's No. 36 Cerro Veijo, in the south fields, at 10,000 bbls.

North Louisiana-Arkansas

While Lisbon and Urania promise to keep the production of the area from slipping, attention is being centered on two wildcatting areas, the Caldwell-Angelina flecture in Winn and Grant Parishes in Louisiana and in the Hude and Arnes area of the Columbia Field in Stephens County where deep sand production is causing a revival of interest. The Humble Co. is active in the Louisiana district.

Caddo Parish reports another deep producer making 20 bbls. of oil and 1,000 bbls. of hot salt water, and 10,000,000 feet of gas. The temperature of the oil was 92 degrees.

Texas Panhandle

The Gulf Pipe Line Co. is stringing pipe from both ends of the line and expects to be able to run Panhandle oil soon.

The Spring Creek Oil Co. got the best well of the week, No. 1 J. A. Whittenburg, which made 500 bbls. flush. The Newby Oil Co.'s No. 1 Cockerell made 400 bbls. flush; American Refining Co.'s No. 1 J. A. Whittenburg, 150 bbls., and the Skelly Oil Co. has two making 200 bbls.

Late News From the Fields

OKLAHOMA

The Reiter-Foster Oil Co. and Elaine Petroleum Co.'s interesting test in Noble County, C SE, Section 33-22-2w, was drilled 2 feet deeper Monday afternoon without increasing the 100 feet of oil in the hole, and also without developing any water. This well swabbed 25 bbls. Sunday and on Monday morning the swab was run twice, bringing out 15 bbls. and reducing the fluid level to 100 feet off bottom, after which the well was deepened. It is probable that the hole will be deepened further this week.

The Magnolia Petroleum Co. and Bu-Vi-Bar Petroleum Co.'s No. 1-A Weder, NW NE, Section 22-21-2w, in the Bu-Vi-Bar Pool west of Perry in Noble County, and about 3½ miles south of the Reiter-Foster test, had 450 feet of oil in the hole from brown lime at 4,476-79 feet. The 5-inch is set at 4,100 feet and it is to be underreamed and lowered to shut off water at 4,185-95 feet so the brown lime can be tested.

In the Wewoka Pool, the deep sand wells produced 23,568 bbls. Tuesday morning, divided as follows: Magnolia's No. 3 Franz, 2,600 oil and 3,000 water; same company's No. 1 Harjo, 1,804 bbls. oil and 7 per cent water and b. s.; Amerada's Nos. 1 and 3 Frederick, 11,833 bbls. oil, no water; Homa-Okla,'s No. 2, 4,456 bbls. oil; Ramsey's No. 4 Amos, 2,875 bbls. oil and a trace of water. The Independent Oil & Gas Co. and Atlantic Oil Producing Co.'s No. 1 in the SW cor. NW, Section 5-7-8, was bottomed at 4,102 feet with 1,300 feet of oil in the hole and the company was trying to decide whether to reseat the 6-inch or run 5-inch inside of it. The 5-inch is on the rack. It is not known whether the oil is coming from behind the pipe where the Hunton lime was cased off, or whether it is a new showing. The Magnolia Petroleum Co.'s No. 3 Harjo, C SW NW NW, Section 5-7-8, was drilling ahead at 4,127 feet and was also due in.

The Dixie Oil Co.'s good well in the area just west of the Wewoka Field proper is turning out better than originally expected. It is No. 3 Rosanna, NE NW SE, Section 25-8-7, and was estimated on April 7 as good for 400 to 500 bbls. from sand at 3,020 feet, just touched. On April 9 it made 300 bbls. in 10 hours and Monday gauged 840 bbls. in 24 hours. The gravity is 38.7 degrees.

In the Garber Field, the new Tonkawa sand well on the famous Schroeder lease, Roxana Petroleum Corp.'s No. 1-L, in the SW SW SW of Section 18-22-3w, flowed 3,086 bbls. during the 24 hours ending Tuesday morning. No. 6-L on the same lease, in the NE SW SW, was agitated and flowed 4,116 bbls. in the 24 hours ended Tuesday morning from total depth of 3,062 feet. No. 5-W, at total depth of 3,636 feet, was drilling up iron and flowing 883 bbls.

The Tonkawa, Hoover and Layton sands will probably keep the Garber Pool's production up somewhere near its present level during most of the summer. The data are limited and it is difficult to forecast the size of the structures in these three zones but from present indications the Hoover sands should be productive over an area of at least 100 acres, the Tonkawa sand about 300 acres and the Layton sand about 300 acres. That means nearly 100 wells will be drilled to these horizons this spring and summer.

KANSAS

In Sumner County, directly west of the Rainbow Bend Pool, the Phillips Petroleum Co.'s No. 2, C SE NE SE, Section 24-33-2, was shot with 5 quarts and completed for 430 bbls. in sand at 3,210-29 feet. The Sinclair Oil & Gas Co. had a rig on the ground for No. 2 Holt, C NW SE SE, and for No. 1 Holt, C NE SE SE, and the Phillips Petroleum Co. had a rig up for No. 3 Holt, C SW NE SE, all in the same section.

Three oil wells and seven new tests were reported in Russell County. The Midwest Refining Co.'s No. 1, C NE NE SW, Section 30-12-15w, was shot with 85 quarts in sand at 3,043-77 feet, total depth 3,153 feet, and made 23 bbls. of oil and 150 bbls. of water. The Wilcox Russell Oil Co.'s No. 1, C NW NW SW, Section 17-12-15w, was completed flowing 7½ bbls. an hour from sand at 2,996-3,005 feet. A rig was on the ground for the same company's No. 2 Munsell, C NE NW SW; No. 17 Oswald, C SW NE NW, was spudded; and No. 18, C NW SE NW, all in Section 17. The same company also had a rig up for No. 1 Mervine, C NE NE SE, Section 18-12-15w.

The Midwest Refining Co.'s No. 22, C NW SE NW, Section 8-12-15w, was completed for 215 bbls. in sand at 2,916-97 feet, total depth being 3,018 feet. The same company also spudded No. 19 Oswald, C NW SW NW, same section.

The Derby Oil Co. spudded No. 3 Dodge, C SE NW SW, Section 32-11-15w, and the Snowden & McSweeney spudded No. 3 Booth, C SW NE SW, same section.

The trend of new development in middle western Kansas has brought another test to Morris County, which is the county bounded on the south by Marion and Chase Counties. The new test is the Derby Oil Co.'s No. 1 Rogers, C SE SW SE, Section 18-16-5, and is drilling at 924 feet.

About 15 miles east of Council Grove, but in northern Lyon County, Ramsey is drilling his No. 1, C SW SW NE, Section 21-16-10, at 200 feet.

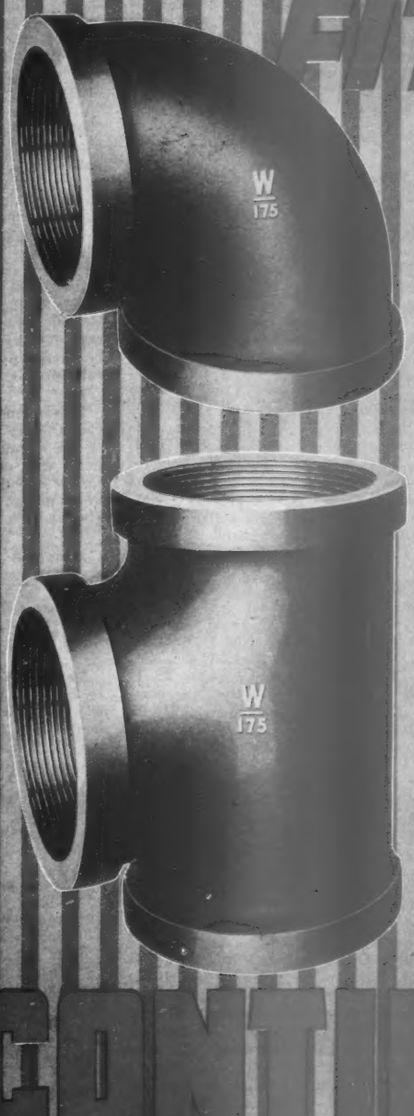
In Osage County, which is east of northern Lyon County, McMahon & Lenord abandoned their No. 1 Rogers, C SE NW, Section 32-18-14, as dry at 1,765 feet.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., Apr. 13.—A number of new producers are reported late this week from the north Brown County area, several not yet completed, and some large producers. The largest

(Continued on Page 157)

WALWORTH FITTINGS



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CONTINENTAL

Spindletop Well Makes 6,000 Bbls Flush

Yount-Lee Co.'s No. 4 McFaddin Produces 3,000 Bbls. With Flush Off From Sand 720 Feet Lower Than No. 3

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Apr. 12.—Late reports from Spindletop say the flush is off the Yount-Lee Oil Co.'s No. 4 McFaddin and it is flowing 3,000 bbls. at 3,500 feet, 24 gravity. The surface distance is 300 feet south from No. 3 McFaddin, but the sand is 720 feet lower. No. 3 came in January 13 flowing 5,000 bbls. at 2,780 feet and kept it up for several weeks. They are on the southeast flank of the dome and are the first deep sand wells there. Spindletop is the original coastal pool, being opened in 1901 by Colonel Lucas, the initial flow being estimated at 50,000 bbls. Eight or more previous deep sand tests on the southeast side by the Gulf, The Texas Company, Rycade Petroleum Corp., Wilson & Broach and others were failures. No. 4 McFaddin came in late Friday and was credited with as high as 6,000 bbls. initial flow.

The late completions bring the total for the week up to 18, with an aggregate of 10,390 bbls. new production. Six dry holes are recorded.

The Atlantic Oil Producing Co. worked over its No. 2 Taylor in the Boling Pool and it came back making 1,200 bbls. at 3,075 feet. It came in originally February 17 as a wild gasser and spraying 1,500 bbls. of oil at 2,963 feet. Casing had been set, but no screen and it blew in with 1,800 feet of drill pipe in the hole. The oil is 25 gravity. Same company's No. 3 Taylor went into gyp and salt at 2,975 feet. The Sinclair Oil & Gas Co. cored a sand in No. 3 Taylor at 2,944 feet and will set and make a test.

Operators have switched to the northwest of present production, following the lead of the Gulf Production Co., which started No. 1 Mick about 2 miles in that direction. The Humphrey Corp., Roxana Petroleum Corp., Kirby Petroleum, Pure Oil Co. and others have leased acreage in that direction.

LaRue Oil Co. abandoned No. 1 Dannebaum at Goose Creek at 1,560 feet. Gulf Production Co.'s No. 21 Beaumont there is making 250 bbls. at 1,500 feet.

Recovering From Storm

The Coastal pools are recovering from the effects of the wind storm that demolished more than 500 wooden derricks in the districts east of Houston. All the steel derricks in stock in south Texas have been purchased by major companies and will be used to replace those demolished that stood over pumping wells. Late buyers find it will require from 30 to 45 days for delivery from the factories. The frequency of hurricane storms along the Gulf Coast, with heavy loss to oil operators from derricks destroyed, has prompted managers of the production departments of the large corporations and also independent operators to adopt steel derricks over pumping wells.

While practically all oil pumped is lifted by means of powers, operated either by motors or gas engines, the wells have to be pulled frequently and the tubing, rods and cups replaced and to do this derricks are necessary, especially in wells lifting oil from the deep sands.

Wooden derricks cost from $1,000 to $1,200 and most of these must be replaced each time there is a wind storm. In these pools the wells are spaced close together, due to the limited producing area and the fact that in the early days the acreage was cut into small tracts, in some instances barely large enough to get a derrick on the lease. The word "pool" is used advisedly in the Gulf Coast region of south Texas and south Louisiana. The productive area on one or more sides of these saline domes is always limited. Thus when one derrick goes down the timbers fall across the guy wires of another and topple it over, which in turn topples another. It will thus be understood that the item of rebuilding derricks is a costly item to operators. The steel derricks cost more initially than the wooden towers, but experience has demonstrated they withstand the wind storms with a less percentage of losses, hence the decision to use more of them.

With drilling operations hampered by reason of demolished derricks, naturally there is a decrease in the number of rigs running, but conditions will be normal in another week of ten days. Heavy rains bad roads and flooded rivers and bayous have also added to the difficulties of operators.

Hull and Orange Lead

Completions during the week total 14, of which 5 are dry. The new production aggregates 6,150 bbls. Three holes are bailing at this time.

The Hull and Orange Pools are the most active, with interest in the new Boling district in Wharton County, southwest of Houston, on the wane. In the first named pool, the Republic Production-Houston Oil Co.'s joint No. 122 Dolbear, on the east flank of the salt plug, or core, came in flowing 2,300 bbls. at 2,450 feet, but by the end of the week it had dropped to 900 bbls. These joint interests finished some nice wells on the Dolbear 800 acres during March and thus far this month. No. 66, a work over, started at 1,000 bbls. and No. 118 at 1,000 bbls. No. 121 put out 5,000 bbls. for two weeks. On the Baldwin fee, on the south flank of the dome, the Gulf Production Co.'s No. 16 Baldwin came in at 3,200 feet flowing 1,000 bbls. of pipe line oil. These wells have brought the daily average output of the pool up to 22,000 bbls. for the week. The Yount-Lee Oil Co.'s No. 9 Stengler, on the north flank, is pumping 50 bbls., 25 per cent sediment and water, at 3,110 feet. The Gulf Production Co.'s No. 65 Phoenix is bailing at 3,475 feet and No. 5 Thomas fee at 2,975 feet. They are on the southeast side of the dome.

The Orange Pool was extended 300 feet north when the Rycade Petroleum Corp.'s No. 6-B, Cow Bayou channel, started flowing 800 bbls. at 4,600 feet. It is now making 600 bbls. The Texhoma Oil Co.'s (formerly Continental) No. 10 Chesson, in the old part of the pool, started off at 1,200 bbls. at 4,750 feet. It is now flowing 1,000 bbls. of pipe line oil.

On the east side of the Humble Pool. Barclay and Meadows' No. 3 Burt, is heading 650 bbls. at 2,530 feet. It is on a lease surrendered by The Texas Company some time ago, and secured by Martin and Czereau, who sold it to Barclay and Meadows. The latter were once active in the Humble and other pools, but of recent years have been operating successfully in the north central and east central Texas fields. The Texas Company abandoned No. 1 fee, on the northwest side at 3,006 feet. Sutherland and others' No. 1, in the same section of the pool is pumping 50 bbls. The West Production Co.'s No. 9 House, on the north side of the San Jacinto River is a gas blowout.

The Hyde Production Co.'s No. 1 Masterson, on the northeast side of the West Columbia Pool, bailed dry at 3,250 feet.

The Gulf Production Co.'s No. 222 Gladys, in the Spindletop Pool, is pumping 75 bbls. at 850 feet.

At High Island, the Gulf Production Co. abandoned No. 4 Smith, between the dome and the Gulf of Mexico, at 3,350 feet.

The Barclay Oil Co.'s No. 1 Bailey, in the Sour Lake Pool, is bailing at 1,600 feet.

In the Edgerly (La.) Pool, the Edgerly Petroleum Co.'s No. 1 Hunter, is pumping 40 bbls. at 3,075 feet.

Estimated Daily Average Production

The estimated daily average gross production for the week ending April 10, is placed at 91,764 bbls., an increase of 5,719 bbls. over the previous seven days, which had declined on account of the storm and consequent interruption of operations. The south Texas pools are credited with 78,972 bbls. of the total and those in south Louisiana with 12,792 bbls.

The estimates for each pool is as follows:

Pool—	Gross Bbls.
Boling	2,500
Batson	1,410
Blue Ridge	500
Barber Hill	105
Big Creek	1,100
Dayton	75
Damon Mound	870
Edgerly (La.)	762
Goose Creek	9,010
Humble	4,125
Hull	22,000
High Island	90
Jennings (La.)	1,200
Lockport (La.)	3,900
Markham	70
Nash dome	215
Orchard	120
Orange	10,515
Pierce Junction	1,900
Piedras Pintas	275
Spindletop	2,250
Saratoga	1,370
Sour Lake	4,410
South Liberty	6,425
Vinton (La.)	6,850
West Columbia	9,522
Welsh-Anse La Bute	80
*Miscellaneous	115
Total	91,764

*Includes Washington County, Kleberg County, Nacogdoches and other spots.

Southwest Fields

The estimated daily average gross output of the Southwest fields for the week is placed at 39,873 bbls., an increase of 948 bbls. over the estimate for last week. This is due to completions in the Laredo and Jim Hogg Pools. The Cole-Bruni district on the Duval-Webb County line is not included. It is estimated at from 1,200 to 1,500 bbls. per day.

The estimate for each field is as follows:

Field—	Gross Bbls.
Luling	22,100
Laredo	3,650
Somerset	2,240
Callihan	218
Rockdale-Minerva	940
Jim Hogg County	3,375
Lockhart	6,850
Total	39,373
Total	131,637
Total last week	124,870
Net increase	6,767

Drilling Operations

Mills Bennett's No. 5 Japhet, on the southwest flank of the dome at Barber Hill in Chambers County, 12 miles northeast of the Goose Creek Pool, is drilling around 2,455 feet and expects to find a sand about 200 feet deeper. That district has been ignored for three years, following a series of holes drilled by the Humble Oil & Refining Co., The Texas Company, old White Oil Corp. and the Bennett Production Co. on the southwest and west sides. Some production was developed on the Japhet on the southwest, but the region was spotted and operators gradually retired. Barber Hill is one of the highest elevations along the Gulf Coast, rising 82 feet above the surrounding prairie. It has been the scene of much exploration work during the past 22 years, tests having been drilled on all sides of the elevation. Recently Bennett deepened No. 3 Japhet, an old but small producer, and got a sand around 2,650 feet, but drilled into it with a large bit and could not make a successful test. The crew continued drilling and went into salt at 4,007 feet. The unusual depth of the salt on that side of the dome upset all the preious deductions. The salt is found on the dome around 800 to 1,000 feet. Now it has been demonstrated that the light gravity oil is produced from sands above the salt and that the heavier grades, if any, will be dome upset all the previous deductions. found at from 4,500-4,800 feet still farther to the southwest. No. 5 is located about 50 feet from No. 3. They deepened the hole, and it is hoped to find a sand around 2,650 feet which will make good wells.

Boling Pool

The Vacuum Oil Co. has the deepest test in the Boling Pool, drilling No. 1 Hooper at 4,043 feet. It showed much gas and is being cored with the bit in 14 feet of sand. It is west and north of the production now there. No. 2 Hooper is drilling below 2,450 feet. The Sun Oil Co.'s No. 3 Taylor, went into cap rock at 3,725 feet. No. 2 Taylor is around 3,160 feet, and No. 4, below 3,725 feet, with No. 5 at 3,610 feet. Locations have been made for five more. The Humble Oil & Refining Co.'s No. 2 Hawes, is around 3,180 feet, and No. 3 at 2,254 feet, No. 5 is below 2,870 feet, and No. 6 Hawes, at 3,035 feet. The Atlantic Oil Producing Co. set and cemented casing in No. 3 Taylor at 2,900 feet. No. 4 Taylor is below 1,945 feet. The Sinclair Oil & Gas Co.'s No. 1 Taylor, is working over at 2,875 feet. No. 2 is drilling below 3,600 feet. No. 3 is at 3,135 feet, and No. 4, at 3,870 feet, with No. 5 shut down at 2,735 feet. A derrick is standing for No. 6 Taylor. The Texas Company's No. 1 Floyd is fishing at 1,550 feet. Same company's No. 5 Taylor is drilling at 3,610 feet. No. 7 is around 3,900 feet, and No. 8 Taylor is shut down at 2,400 feet. J. K. Hughes Co.'s No. 1 Mullins is at 1,910 feet. Gulf Production Co.'s No. 1 Mick is rigging. It is around to the northeast of the production and far enough out to be considered a semi-wildcat.

Liberty County Pools

In the South Liberty Pool, the Sinclair Oil & Gas Co.'s No. 3 Condit is drilling around 3,345 feet. The Associated Oil Co.'s No. 2 Deussen is drilling deeper. The Humble Oil & Refining Co.'s No. 1-B Deussen is drilling around 1,345 feet. Same company's No. 2 Welder, on the west side of the Trinity River is shut down on account of high water.

The Harrison Oil Co.'s No. 2 Schlender is below 1,100 feet on the southwest side of the North Dayton Pool.

In the Hull Pool, the Gulf Production Co.'s No. 17 Scarborough is rigging, as is No. 67 Phoenix. No. 66 Phoenix is drilling around 3,615 feet. No. 22 Morris-Phillips is rigging. The Humble Oil & Refining Co.'s No. 4-B Abel is at 1,455 feet, and No. 3 Sterling around 1,435 feet. No. 21 Guedry is drilling at 2,915 feet, with a location for No. 5 Merchant. The Texas Company's No. 1 Hannah is at 3,235 feet, and No. 10 Merchant around 3,535 feet. The Mecom Oil Co.'s No. 8 Taylor is below 3,500 feet. The Republic Production Co.-Houston Oil Co.'s No. 119 Dolbear is deepening at 2,910 feet. No. 120 is drilling around 1,875 feet. No. 123 is at 2,817 feet, and No. 124 is rigging to start drilling.

Hardin County Pools

In the Batson Pool, the Gulf Produc-

(Continued on Page 134)

Big Tonkawa Sand Producer at Garber

Roxana Gets Good Well While Sinclair's Record Gusher Continues Decline. Good Completions in Wewoka Field

By C. D. Lockwood
Staff Correspondent, Oklahoma Fields

Several new producers from a variety of sands in the Garber Field, including a new 4,500-bbl. Tonkawa sand well and a new deep sand well in the Wewoka Pool, furnished the most interesting news in Oklahoma during the past week. The early days of this month lived up to April's well-known reputation for dampness and especially during the latter part of the past week the State was soaked from one end to the other, the precipitation varying from a gentle drizzle in the East to heavy snow in the Panhandle with the usual result of impassable roads and a slowing up of activity in general.

The continual decline in production of the Garber Field's record well, No. 27 Hartley of the Sinclair Oil & Gas Co. and the other big wells there, was offset by the bringing in of some new producers in shallower sands. The No. 27 Hartley gauged 5,977 bbls. of oil and 7,000 bbls. of water Monday morning, while No. 26 Hartley, a location south, gauged 3,000 bbls. of oil and 3,500 bbls. of water, and No. 30 North Walker, west offset to the No. 27 Hartley, made only 980 bbls. of oil and 2,500 bbls. of water. The total production of the Garber Field on Monday morning from all sands was 35,300 bbls.

Other Good Producers

One location west of the Sinclair's No. 30 Walker, the same company's No. 37, NW NE NE, Section 13-22-4w, was good for 750 bbls. in the Layton sand at 3,570-85 feet. On the same lease, No. 33, in the SE cor. NW NE, is a new deep sand producer at 4,305-25 feet, good for 2,192 bbls. The Sinclair Oil & Gas Co. is starting three new tests to the Tonkawa sand on its Kisner lease, offsetting the Roxana's great Schroeder property on the south. The new locations are for No. 27-T Kisner, 332 feet from the north line and 410 feet from the west line of the lease which is in the NW quarter of Section 19-22-3w; No. 28-T Kisner, 200 feet from the north line and 1,070 feet from the west line; and No. 29-T Kisner, 200 feet from the north line and 1,100 feet from the east line.

The Roxana Petroleum Corp.'s No. 25 Schroeder, NE cor. SW SW, Section 18-22-3w, was swabbing 12 bbls. an hour from the Upper Hoover sand at 2,720-21 feet, and No. 1-L in the SW cor. of the same lease flowed 2,074 bbls. in the first 8 hours and 4,568 bbls. in the first 24 hours while cleaning out and agitating at 3,031-38 feet. This is the Tonkawa sand. The Roxana's No. 2-L was drilling at 2,445 feet in hard sand topped at 2,387 feet. Not counting No. 1-L and three wells shut down, there are 20 tests drilling to various sands on this lease. No. 6-L Schroeder agitated and flowed 4,200 bbls. from sand at 3,062 feet, total depth; No. 5-W was drilling in sand at 3,636 feet and flowed 721 bbls.; No. 15 swabbed 265 bbls. at total depth of 2,487 feet; and No. 25 swabbed 242 bbls. at 2,721 feet.

North of the old Barnes Pool, the Roxana Petroleum Corp.'s No. 1 Reed, SW cor. NE, Section 34-24-3w, had lowered the 6-inch to 3,706 feet, with total depth at 3,726 feet, and it was believed that the water was shut off. Except for 7,000,000 feet of gas at 1,335-47 feet, this test has had a hole full of water in practically every sand it has penetrated so far. The Tonkawa sand was found at 3,215-50 feet and, like the others, carried a hole full of water.

West of Perry, in Noble County, the Red Bank Oil Co.'s No. 1, C SE SW NW, Section 16-21-2w, was drilling ahead at 4,620 feet in black shale carrying 1,500 feet of water in the hole. This test is apparently running about 93 feet lower than the Reiter-Foster Oil Corp.'s and Elaine Oil Co.'s No. 1 in the C SE of Section 33-22-2w. The latter well was being tested out Monday with officials of the company on the ground.

Wewoka Pool

In the Wewoka Pool of Seminole and Hughes Counties, the Amerada Petroleum Corp.'s deep sand producers were still holding up to a combined flow of 11,627 bbls. Monday morning. The six deep sand wells, together with the Magnolia Petroleum Co.'s uncompleted No. 5 Franz, made 25,541 bbls. Saturday, and the b.s. and water content of the discovery well apparently had not increased appreciably during the week, although its oil output was down to 2,574 bbls. The Magnolia's No. 3 Franz, however, was still producing 3,039 bbls. Saturday, and Ramsey's well 2,867 bbls. The Amerada Petroleum Corp. is building rigs and drilling six deep sand tests in addition to its two producers.

The new Wewoka producer is the Magnolia Petroleum Co.'s No. 5 Franz, SE cor. SW SW, Section 32-8-8, a location east of No. 1 Franz and a diagonal northwest offset to the Amerada's No. 1. No. 5 Franz was flowing 660 bbls. from the Hunton lime topped at 3,960 feet and drilled 3 feet in.

The Independent Oil & Gas Co. and Foster Petroleum Co.'s No. 1, in the SW cor. NW of Section 5-7-8, which has been delayed near the top of the deep sand for some time, has finally landed the 8-inch casing on bottom at 4,091 feet, where it was set Monday. This well is running about 5 feet lower than the Homa-Okla well, according to the correlation on top of the lime, and is about 17 feet higher than the Amerada's No. 1, so it should contribute a substantial increase in the pool's production during the coming week. It probably has only about 50 to 75 feet yet to drill.

The Osage Oil Corp. (Wrightsman) found a little first break production in its wildcat, C SE, Section 6-24-8, Osage County. First oil was reached at 2,562 feet and drilled to 2,575½ feet, the well made 84 bbls.

In the old Paden area, Okfuskee County, the Mid-Kansas Oil & Gas Co.'s No. 1-A Hennechuchee, NW cor. NE, Section 17-12-7, had 1,500 feet of oil in the hole from the Dutcher sand at 3,796-3,810 feet, and was to test the sand with the swab.

Burbank Field crude in storage April 10 amounted to 6,641,266 bbls., a decrease of 121,504 bbls. over the previous week. The Gypsy Oil Co. and Phillips Petroleum Co., with about 60,000 bbls. withdrawals each, accounted for almost the entire amount of decline.

Production of Fields

Following was the average daily production in several important pools for the week ending as indicated:

Burbank Field, Week Ending April 7		
Lewis Oil Co.	15	706
Carter Oil Co.	231	5,931
Comar Oil Co.	7	86
Devonian Oil Co.	16	110
Mid-Continent Petroleum Corp.	106	1,169
Gypsy Oil Co.	193	2,422
Kewanee Oil & Gas Co.	25	200
Laurel Oil & Gas Co.	16	150
Lorraine Petroleum Co.	15	84
Midland Oil Co.	39	622
Mid-Kansas Oil & Gas Co.	41	894
Peters & Oliphant	3	543
Phillips Petroleum Co.	185	9,587
Phillips and Delmar Oil Co.	16	782
Phillips Petroleum Co. and Skelly Oil Co.	180	2,414
Prairie Oil & Gas Co.	130	3,741
Producers & Refiners Corp.	29	264
Roxana Petroleum Corp.	54	472
Seemans	1	0
Simons and Moore	29	203
Sinclair Oil & Gas Co.	144	1,443
Skelly Oil Co.	26	795
Tidal-Osage Oil Co.	42	464
The Texas Co.	16	294
Twin State Oil Co.	24	357
Total	1,635	33,733
Kay County Extension of Burbank		
George Bole	3	192
Carter Oil Co.	11	817
Comar Oil Co.	17	846
Mid-Continent Petroleum Co.	16	807
Gypsy Oil Co.	18	299
Laurel Oil & Ref. Co.	5	125
Mid-Kansas Oil & Gas Co.	10	495
Phillips Petroleum Co.	32	2,106
Prairie Oil & Gas Co.	4	116
Pure Oil Co.	5	198
Roxana Petroleum Co.	8	255
Dye & Tomlinson	8	304
Skelly Oil and Phillips Petroleum	20	295
Sinclair Oil & Gas Co.	5	168
The Texas Co.	16	194
Twin State Oil Co.	15	686
Total	193	7,902
Tonkawa Field April 8		
Amerada Petroleum Co.	38	1,682
Blackwell Oil & Gas Co.	31	691
Carter Oil Co.	4	87
Champlin Refining Co.	2	16
Comar Oil Co.	366	15,427
Mid-Continent Oil Co. and Marland Oil Co.	21	2,852
Gypsy Oil Co.	110	4,370
Healdton Oil & Gas Co.	26	463
Wentz Oil Corp.	50	8,679
McMan Oil Corp.	2	21
Pennok Oil Co.	32	660
Phillips Petroleum Co.	3	31
Prairie Oil & Gas Co.	21	307
Sinclair Oil & Gas Co.	1	7
T. B. Slick and Comar Oil	38	1,636
Southwestern Petroleum Co.	15	294
The Texas Company	12	1,170
White Eagle	7	121
Total	770	38,514
Tonkawa Deep Sand April 6		
Amerada Petroleum Co.	8	1,245
Pennok Oil Co.	7	134
Comar Oil Co.	52	9,770
Gypsy Oil Co.	17	2,092
T. B. Slick	7	1,112
McMan Oil Co.	1	4
Blackwell Oil & Gas Co.	4	236
Wentz Oil Co.	16	7,995
The Texas Co.	11	1,175
Phillips Petroleum Co.	1	19
Mid-Continent and Marland Oil Co.	5	2,994
Total	129	26,776

Total deep sand production to April 6, 30,104,044 bbls.

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Davenport Pool, Week Ending April 5		
Magnolia Petroleum Co.	55	4,213
Gypsy Oil Co.	18	3,830
Phillips Petroleum Co.	3	624
Pure Oil Co.	7	447
Selby Oil	12	727
Southwestern Petroleum Co.	3	892
Carter Oil Co.	7	215
Skelly Oil Co.	8	460
The Texas Company	18	3,924
The Twin States Oil Co.	8	325
Sinclair Oil & Gas Co.	1	50
Amerada Petroleum Corp.	10	1,326
Shaffer Oil & Ref. Co.	3	132
Prairie Oil & Gas	21	1,818
Total	172	18,983

Garber Field

Following is the daily average deep sand production in the Garber Field for the week ended April 6, by companies and leases:

Company and lease—	Wells	Bbls.	
Carter Oil Co., Dively	2	173	90
D. W. Franchot, Lynds	1	229	0
Healdton Oil & Gas Co., Belveal	2	80	110
Mid-Continent-Marland, School Land	12	724	1,500
Prairie Oil & Gas Co., Wishard	1	90	0
Roxana Petroleum Corp., Schroeder	12	7,318	1,500
Roxana Pet. Corp., Wolfe	1	210	250
Sinclair Oil & Gas Co., Belveal	5	241	580
Sinclair Oil & Gas Co., Denker	2	73	8
Sinclair Oil & Gas Co., Hartley	5	23,209	8,170
Sinclair Oil & Gas Co., W. Kisner	5	1,018	1,366
Sinclair Oil & Gas Co., Shaffer	1	29	2
Sinclair Oil & Gas Co., N. Walker	10	5,963	3,138
Total	59	39,457	16,714

Deep Rock Pool

Following is the daily average production of companies in the Deep Rock Pool, Payne County, for week ended April 5:

Deep Rock Oil & Ref. Co., Goodenough	3	289
Deep Rock Oil & Ref. Co., Derrt.	3	427
Deep Rock Oil & Ref. Co., Boyles	4	1,772
Deep Rock Oil & Ref. Co., Barth.	1	130
Deep Rock Oil & Ref. Co., Shannon	1	90
Deep Rock Oil & Ref. Co., Posey	1	0
Shaffer Oil & Ref. Co., Given	1	775
Deep Rock Oil & Ref. Co. Fulton	1	175
Deep Rock Oil & Ref. Co., Morehead	1	100
Pure Oil Co., Ostrander	1	150
J. A. Hull Co., Nelson	1	545
Amerada Petroleum Corp., Haley	4	497
Mulberry Oil Co., Haley	3	641
Total	25	5,591

Kay County

The Marland Refining Co.'s No. 1, C NW NW SE, Section 16-29-1e, was completed for 30 bbls. on the pump from chat at 3,440-69 feet after plugging back from 3,840 feet.

In the North Braman Pool of Kay County, the Comar Oil Co.'s No. 1, C NE NE SE, Section 20-29-1w, was completed on the pump for 93 bbls. at 2,349-80 feet with total depth 2,383 feet. No. 6, C SW NE SW, Section 21-29-1w, had only 1,500 feet of oil in the hole after a 40-quart shot. Sand was at 2,322-75 feet, total depth 2,377 feet. Comar's No. 12, C SE NW SW, same section, was drilling at 160 feet. No. 10, C NW SE NW, same section, was pumping 74 bbls. from sand at 2,059-81 feet, total depth 2,084 feet, and No. 4, C SW NW SE, Section 5-28-1w, in the South Braman Pool was drilling at 180 feet.

North of Blackwell, the Harold Petroleum Co. shut in its No. 3, C NE SE SW, Section 4-27-1w, as a 30,000,000-foot gasser in sand at 2,360 feet. Poling and others had a well flowing 5 bbls. an hour but also cutting 2 per cent b. s. in their No. 1, SE cor. NE, Section 5-27-1w. Sand was found at 3,452-58 feet. The Black Gold Oil Co.'s No. 3, NW cor. Section 10-27-1w, flowed 30 bbls. the first hour but was not completed. Sand record was 3,423-27 feet.

Northeast of the Hubbard Pool, the Marland Oil Co. staked a location for No. 1 Code, C NW NW NW, Section 31-27-1w. In the north end of the Hubbard Pool, the Prairie Oil & Gas Co. was building a rig for No. 7 Vanatee, C NE SW NE, Section 1-26-2w.

Ed Rich and others abandoned the rig for their No. 1, C SE NE SE, Section 28-28-2.

In Grant County, the Marland Refining Co. was building a rig for a wildcat test just north of its Webb test. The new one, for which a rig has been built, is No. 1 School Land, in the SW cor. NW, Section 36-28-3w.

In the Bu-Vi-Bar Pool of Noble County, the Magnolia Petroleum Co. was moving in a rig for No. 1 Freeman, C NE NW SW, Section 16-21-2w.

Garber Field

In the Garber Field, Garfield County, the Sinclair Oil & Gas Co. was starting a number of new wells. Rigs were being built for No. 41 N. Walker, C SW SE NE, Section 13-22-4, and for No. 42 N. Walker, C NW SE NE, same section. No. 1 N. Walker, C SE SE NE, Section 13, was rigging up to deepen. No. 34, C SW NW NE, Section 13, was completed for 3,220 bbls. of 44.3 gravity oil at 4,355-67 feet. A rig was being built for No. 34 Hartley, C SW SW NW, Section 18-22-3w, for No. 35 Hartley, CSL SW NW, for No. 36 Hartley, C NW SW NW, and for No. 37 Hartley, NW cor. Section 18.

A rig was also up for No. 2 Hartley, C SW SW NW, Section 18, and another for No. 6 Hartley, C SE SE NW, same section, an old well being deepened. Sinclair's No. 32 Hartley, C NE SW NW, Section 18, was spudded.

On the Roxana Petroleum Corp.'s Schroeder lease, in Section 18-22-3w, No. 3-L, SW cor., was drilling at 1,210 feet; No. 4-H, C SW NW SW, was spudding at 100 feet; a rig was up for No. 5-L, C NW NW SW, a twin well; and No. 6-L, C NE SW SW, another twin, was rigging up; and No. 7-H Schroeder, SE cor. SW NW, was spudding.

The Mid-Continent Petroleum Corp. and Marland Oil Co.'s No. 64 School Land, C NW NE SE, Section 13-22-4w, was rigging up.

An interesting test starting up just south of the Garber Pool is the Prairie Oil & Gas Co.'s No. 1 Boswick, C NW NW NE, Section 6-21-3w. The rig is up.

Not Making Water

In the issue of March 11, R. B. Pender's well, No. 1 Clark, in the SW cor. of Section 4-21-3w, was erroneously reported to have drilled into water. Corrected report shows it to be making 40 bbls. daily of 42 gravity oil without any water. Sand record is 2,234-49 feet.

Burbank Field

Much new work was reported in the Burbank Field as a result of the recent sale of acreage around the pool. The Phillips Petroleum Co. started 10 new tests as follows, all of which are rigs except the one noted as drilling: No. 13, CNL NW NW SW, and No. 14, CNL NE NW SW, Section 1-27-5; No. 4, CEL SE SE NE and No. 13, CWL NW NW SE, Section 2-27-5; No. 15, CNL NW NE SE and No. 16, CEL NE NE SE, Section 20-26-6; No. 13, CNL NW NW SW, No. 14, CNL NE NW SW, No. 15, CNL NW NE SW, and No. 16, CEL NE NE SW, Section 21-26-6. The Lewis Oil Co. had three new ones: No. 2, CNL NE NE SE, No. 3, CNL NE NW SE, and No. 4, CNL NW NE SE, Section 21-26-6. The Mid-Kansas Oil & Gas Co. had rigs on the ground for four new wells as follows: No. 1, CNL NW NW NW, No. 2, CWL SW NW NW, No. 3, CWL NW SW NW, and No. 4, CSL SW SW NW, Section 22-26-6.

The Phillips Petroleum Co. completed a 600-bbl. well in the Burbank Field. It was No. 14, CNL NE NW SE, Section 2-27-5, the sand record being 2,907-45 feet, with total depth 2,948 feet. The same company had a rig on the ground for No. 16, NE cor. SW, Section 1-27-5, and spudded four tests in Section 12-27-5. These are: No. 1, SW cor. NE; No. 2, CSL SE SW NE; No. 3, CSL SW SE NE; and No. 4, SE cor. NE. A rig was on the ground for No. 16, NE cor., Section 12-27-5.

The Carter Oil Co. spudded No. 10, CSL SE SW NE, Section 20-26-6.

Northwest of Pawhuska, the Petroleum Drilling Co. completed its No. 17, CSL SW NE SW, Section 26-26-8, for 100,000 feet of gas in sand at 1,160-77 feet.

Kanupp and others spudded their No. 1, NE cor. NW NE, Section 20-26-12.

In the Osage

In the Osage, just north of Tulsa, the Westland Oil Co. had a rig up and tools on the ground for No. 2-A, a twin well, in the CNL NE SE, Section 29-20-12.

(Continued on Page 136)

GREENWOOD COUNTY SHOESTRING DISTRICTS STILL LEAD KANSAS

By C. D. Lockwood
Staff Correspondent, Kansas Fields

A number of average-sized completions in several districts of Kansas were reported during the past week, with the "shoestring" districts of Greenwood County maintaining their customary lead and with nothing of a spectacular nature to cause scouts a profane journey through the mud.

The Carter Oil Co. and Fleeger well in the NE cor. SE of Section 16-27-7w, Kingman County, averaged about 140 bbls. daily during the past week from the pay horizon, probably siliceous lime, at 3,878-89 feet. About 90 to 95 bbls. of this output is good oil. The east offset to this well, T. B. Slick's No. 1 Richardson, NW cor. SW, Section 15-27-7w, was drilling below 3,150 feet, having picked up a hole full of water at 3,120 feet. Several miles southeast of these wells, Allison & Fitzwilliams' No. 1 Wilkinson, C SE NW NW, Section 25-27-7w, a 4,500-foot test on a solid block of 10,000 acres, was drilling below 3,100 feet.

Greenwood County

In the Scott Pool of the Little Golden Lane, Greenwood County, the Manhattan Oil Co.'s No. 2 Scott, C SW SE SW, Section 24-23-8, was rigging up. The same company and Phillips Petroleum Co. had a rig in place for No. 9 Craft, C SE NE SW, Section 25-23-8, and the Manhattan Oil Co. was drilling its No. 11, C SE NW NE, same section, at 445 feet. No. 12 Scott, C NE SW NE, same section, was rigging up, and rig was on the ground for No. 11 Dales, C NW NE NW, Section 25.

The Manhattan Oil Co. was drilling its No. 22, C SE SE SE, Section 10-23-9, Teeter Pool, at 200 feet, and the Skelly Oil Co. spudded No. 2, C NE NE NE, Section 15-23-9. The Empire Gas & Fuel Co. had a rig in place for No. 34 Teeter, C E half SW, Section 16-23-9, and was drilling at 1,025 feet in No. 4, C NE SW NE, Section 19-23-9.

North of the DeMalorie Pool, Connell and Day abandoned their No. 2, C SW SW SE, Section 1-22-10, as dry in sand at 2,018-24 feet, total depth being 2,162 feet. This well was a direct east offset to Day and others' No. 1, C SE SE SW, same section, which was good for 950 bbls. initial production after a shot of 240 quarts in sand at 1,975-2,039 feet,

(Continued on Page 141)

...T CONVENTION OF THE ORGANIZATION IN TULSA LAST WEEK

The increasing use of distillate for house-heating oil burners and the increasing price of kerosene are rapidly eliminating the use of gas oil and light distillate for cracking purposes

The refiner who installs only a gas oil cracking plant may soon find his gasoline costing more than he can get for it, while his neighbor is selling his gasoline at a good profit because he makes it direct from fuel oil, topped crude or

low grade crude with his Dubbs Cracking plant

But if he wants to crack gas oil, his Dubbs Process does it cheaper and better than any other

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Louisiana-Arkansas Wildcat Plays

Grant and Winn Parishes, Hude and Aarnes Area, Columbia Field, Stephens County, Promised Increased Activity

By James H. Dameron
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Apr. 12.—Confident Louisiana and Arkansas' two new pools, Lisbon and Urania, would continue to keep the combined production of the two states on the climb the attention of the oil fraternity was focused on the wildcat finds and what appears to be the biggest wildcat play Louisiana will get this year. A great amount of attention is being lavished upon the Caldwell-Angelina flecture in Grant and Winn Parishes in preparation for a far-reaching wildcat play, according to reliable reports trickling into various oil offices.

And in Arkansas, the Hude and Aarnes wildcat in the Stephens Field, Columbia County, gave promise of reviving that field with deep sand production. Their No. 2 Brown, Section 13-15-20, which has been carried on drilling reports for almost two years, got an oil show at 3,292-96 feet.

The test found the oil show in cores taken at the above depths in a sandy shale formation. Casing is being run to 3,291 feet and a test will be made within the next few days. There have been no deep holes drilled in that vicinity and the test has revived a new interest in that territory.

Humble Active in Wildcatting

In Grant and Winn Parishes, the Humble Oil & Refining Co., active in wildcatting in both states, is reported to have closed a deal with a lumber company for a 46,000-acre block and after another block comprising 60,000 acres. The first block is said to lie in Townships 8, 9 and 10, and Ranges 1 and 2e. Under the agreement, the Humble Oil & Refining Co. is reported to have made, it is to drill 20 tests on the block to the 1,500-foot level or deeper.

In that general area the Dixie Oil Co. drilled a 2,252-foot dry hole some time ago in Section 29-9-2. At 1,839-40 feet a showing of gas was found in the one foot of sand. Higher up and in sand topped at 1,525 feet, the test encountered salt water. In Section 4-8-2, another dry hole was drilled to 2,082 feet. A light showing of oil was found in it at 1,910 feet.

The second and largest block the Humble Oil & Refining Co. is reported to be dealing for is what is commonly known as the Edenborn block, said to lie in that general region. Several other major companies are buying acreage in that area and land buyers are reported to be active there. The Caldwell-Angelina flecture extends from Caldwell Parish across Louisiana to Angelina, Tex., according to the Veach report.

Caddo Deep Producer

In Caddo Parish, another deep test was put on the producing list in the Gulf Refining Co.'s No. 17 Lane, Section 13-21-15. It is producing 20 bbls. of oil and 1,000 bbls. of hot salt water, according to a conservative estimate made Saturday morning and is producing from a hard lime formation at 3,674 feet. The well was bailed Friday afternoon and is making 10,000,000 feet of gas.

When it came in, rocks were hurled out of the hole by the gas pressure. The temperature of the oil was 92 degrees. The Gulf Co.'s well is a northeast offset to the Dixie Oil Co.'s No. 2-B Noel, which is producing 92 bbls. of oil daily from that horizon along with a big batch of salt water. The oil at the Dixie Oil Co.'s well was 107 degrees in temperature.

While waiting for the cement to set at 3,845 feet, at No. 18 E. K. Smith, Section 12-21-15, Ohio Oil Co. will move the rig over to No. 19 Smith and drill it to the chalk rock. In drilling the deep test, the Ohio Oil Co. encountered a good showing in the chalk rock. No. 18 will be drilled in with standard tools and the rotary moved back to No. 18.

Two other deep tests got under way during the week, the Gulf Refining Co.'s No. 1 Byrd, Section 2-19-14, Caddo Parish; and the Gilliland Oil Co.'s No. 1-D Taylor, Section 14-23-8, Claiborne Parish.

During a storm the night of April 6, one of The Texas Company's 37,000-bbl. steel tanks at its refinery farm at Ardis, containing 18,000 bbls. of distillate, was ignited when struck by lightning. Efforts to extinguish the fire with chemicals were futile. Water was pumped into the tank to save as much of it as possible and three rings were salvaged.

Lisbon Extension

When production in the Lisbon Pool was extended north into Section 4-17-16, derricks were hauled in for offsets and several new wells were reported to be coming in towards the last of the week. Lisbon's daily average production for the week went up to 5,700 bbls.

Smackover, both heavy and light fields, showed a decrease anfl El Dorado dropped off 2,000 bbls. The gains in the other two fields were not sufficient to overcome the losses of the three major fields and Arkansas' daily average production showed a 280-bbl. decrease.

Despite the 10-cent cut in price, which brought the posted price of Urania crude down to $1.30, operations in that field continued on the increase. The price cut is the second the Louisiana Oil & Refining Co., only purchaser posting in that field, has made since it started posting prices there, January 28. The field's daily average production was shy 740 bbls. in reaching the 10,000-bbl. daily average mark.

It was the 3,000-bbl. increase at Urania that sent Louisiana's daily output forward for a 2,000-bbl. gain. At the close of the fiscal week Urania had 11 wells waiting on standard rigs; 35 drilling; nine rigging up and 23 derricks standing and seven locations.

At the end of the week it was announced that Eugene Holman, general manager of the Humble Oil & Refining Co.'s operations in Louisiana and Arkansas, had been made chief geologist of the company with offices in Houston, Tex. David Harris, assistant general manager was promoted to general manager in this district, and Fred Rice was named assistant general manager. The change in personnel was effective April 1. Mr. Holman left here the last of the week to assume his new duties.

PRODUCTION BY FIELDS

North Louisiana

	Bbls.
Bellevue	2,490
Caddo, light	5,480
Caddo, heavy	2,155
Cotton Valley	8,100
DeSoto and Red River	3,960
Elm Grove	620
Haynesville	10,280
Homer	5,795
Urania	9,260
Total	51,140

Arkansas

Smackover, heavy	133,753
Smackover, light	17,830
El Dorado	7,460
Lisbon	5,745
Nevada	3,015
Stephens	1,650
Total	169,453
Total both fields	220,593
Total last week	218,865
Increase	1,728

Urania Field

Continuing its usual development Urania completed the week with 14 new oil wells, with a combined initial production of 1,830 bbls.

McWilliams and Fosters' No. 1 J. D. Russell, Section 25-10-1e, was the biggest producer in the field last week. It was finished in sand at 1,531-36 feet, making 800 bbls. naturally. Natural Gas & Fuel Co.'s No. 4 T. Russell, Section 26-10-1e, is flowing 150 bbls. from sand at 1,548-54 feet, and its No. 1 Frank Tullos, Section 26-10-1e, is flowing 75 bbls. daily at 1,537-40 feet. Ohio Oil Co.'s No. 5 Urania, Section 18-10-2e, is making 100 bbls. naturally from sand at 1,511-14 feet.

Roberts and associates' No. 2 Russell, Section 25-10-1e, was completed at 1,524-29 feet, for a 150-bbl. well. Sherman and associates' No. 1 Russell, Section 25-10-1e, is flowing 100 bbls. from sand at 1,530-36 feet. Abercrombie Co.'s No. 1 M. M. King, Section 25-10-1e, was completed in 5 feet of sand topped at 1,500 feet, and is flowing 150 bbls. daily. O. W. Clark completed two last week, No. 2 J. D. Russell, Section 26-10-1e, is flowing 100 bbls. daily from sand at 1,556-62 feet, and No. 2-A J. D. Russell, same section, is making 30 bbls. on the pump from sand at 1,557-61 feet. Galloway and associates' No. 3 Pendarvis, Section 23-10-1e, is flowing 25 bbls. from sand at 1,518-24 feet. Louisiana Oil Corp.'s No. 2 Bass, Section 24-10-1e, is a 20-bbl. pumper at 1,556-58 feet, and Louisiana Oil Corp.'s No. 9-B Tremont, Section 25-10-1e, is pumping 20 bbls. daily at 1,567 feet. Long and associates' No. 1 Bass, Section 25-10-1e, is making 40 bbls. on the pump from sand at 1,543-54 feet. Hunt and associates' No. 5 Tullos heirs, was finished in sand at 1,495-1,501 feet, and pumping 70 bbls. daily.

Being Rigged Up

Abercrombie Co.'s No. 4 M. M. King, Section 25-10-1e, is being rigged up; No. 5 is drilling at 1,485 feet, and the 6-inch is being lowered to 1,508 feet at No. 3 King. Arizola Petroleum Co.'s No. 3 Tannehill, Section 36-10-1e, is a rig, and No. 4 is being rigged up. Atlantic's No. 3 Tullos, Section 26-10-1e, is waiting for the cement to set at 1,522 feet. Six-inch was cemented at 1,560 feet at Ayres and associates' No. 3 Urania, Section 13-10-1e. B. & B. Drilling Co. cemented 6-inch at 1,502 feet at No. 1 Urania, Section 7-10-2e. Carlton and Thorpe's No. 1 Kyle and Davis, Section 25-10-1e, is drilling at 600 feet. Same operators have a derrick up in the west end of Lot 10, Block 1, for No. 1 Odom, Section 25-10-1e.

O. W. Clark's No. 1 K. Russell, Section 25-10-1e, is drilling at 1,544 feet. His No. 3 Tullos, Section 23-10-1e, is waiting for the 10-inch to set at 105 feet. Dixie Oil Co.'s No. 5 Urania, 200 feet south and west, NE cor. SW SE, Section 24-10-1e, is drilling at 500 feet. Screen is being set at 1,521-30 feet at Explorers Oil Corp.'s No. 1 Keith, Section 36-10-1e. Six-inch casing was cemented at 1,514 feet at J. O. Graves' No. 1 King, Section 25-10-1e. A. E. Hudson's No. 1 Urania, 100 feet north and west, SE cor. NE SE, Section 7-10-2e, is a derrick. Hunt and associates have a derrick built for No. 6 Tullos heirs, 440 feet north and east, SW cor. SW NE, Section 26-10-1e. Six-inch was set at 1,484 feet at No. 7 Tullos heirs, and No. 8, 150 feet south and 200 feet east, NW cor. NW SE, Section 26-10-1e, is a location. No. 9, 150 feet south and west, the center of the section, is a rig.

Coring Gray Sand

S. S. Hunter's No. 2 Louisiana, Section 27-10-1e, is coring a gray sand at 1,570 feet. H. M. Jones is arranging to

NEW TESTS IN MALJAMAR POOL; HOPE OF NEW PRODUCTIVE AREA

By Special Correspondent

ARTESIA, N. Mex., Apr. 10.—Several additional tests will be started in Lea County in the next 30 days, as a result of the opening of the Maljamar Pool, 30 miles east of the productive area. It is expected the Ohio Oil Co. will take the lead in the development, having purchased the L. H. Puckett permit, consisting of Sections 12, 13, 24 and 25 in Township 17, Range 31, adjoining the block of the Maljamar Oil & Gas Corp. to the west. It has also bought the Jewett permit, consisting of the S half of Section 6, all of Section 7, S half of Section 8, all of Sections 17 and 18, Township 17, Range 32.

The Marland Oil Co., according to a late report, has taken over 4,000 acres on the caprock from Elliott and associates, who started a test several months ago, which was drilled to 500 feet. This is located in Section 11-16-32. It is the intention of the Marland company to install a standard rig and carry this hole down.

Negotiations are underway by the Skelly Oil Co. for the purchase of three permits, lying to the north and west of the Maljamar well. An additional gas sand was picked up in this latter well at 3,135 feet, this being 15 feet in thickness, after which the bit went into a hard lime. A test made before the finding of the additional sand showed the well to gauge 9,200,000 feet.

Two large machines are en route to this company's tests on the Grace Mitchell and Pearsall permits in Sections 5 and 33, Township 17, Range 32e. Completions of these wells and the drilling of several other tests it is expected will prove the existence of a new productive area.

On the east side of the proven area, salt water has been encountered by the Ohio Oil Co. in its No. 1 test in the SE of the NW of Section 22-18-28, at a depth of 2,250 feet. This will be cased off and the hole carried down.

The Ohio company has a nice producer in No. 1 Marion in the SE of the NE of Section 5-18-28, which is being cleaned out. The Picher Oil Co. has its second completion in the SE of the SE of Section 12-18-27, which is making 50 bbls. after being shot from 1,982-2,000 feet.

Efforts are being made to case off salt water in the No. 1 Braden, in the center of Section 5-17-28, this being encountered at 1,900 feet.

Fifteen feet of well saturated sand was encountered in the A. H. Ramage well, Section 2-18-28, at 2,440 feet.

The Texas Company has spudded in No. 1 on the George Bobb permit, NE of NE of Section 17-17-28, which will be drilled to 2,500 feet.

Drilling is to be resumed on the J. S. Covert No. 1 in Lea County, in the center of the NW of the NW of Section 15-21-33. Work was suspended on this

(Continued on Page 134)

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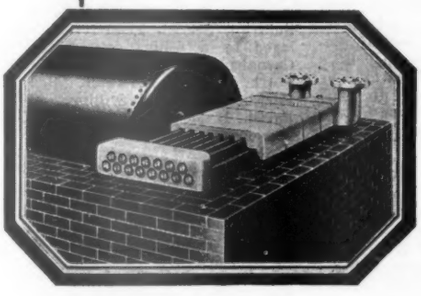

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plug No. 4 Russell, Section 25-10-1e, back 5 feet from 1,542 feet and complete. Louisiana Oil Corp.'s No. 4-A Tremont, Section 28-10-2e, is coring brown sand at 1,641 feet. Its No. 5-A Tremont, Section 35-10-1e, is waiting for the cement to set at 1,531 feet. Louisiana Oil Corp.'s No. 31-B Tremont, NE SE NW, Section 25-10-1e, is a derrick. Little River Oil Co.'s No. 1 Ratcliff, Section 26-10-1e, is being rigged up. Six-inch casing is being lowered to 1,481 feet at Love and associates' No. 2 Zimmerman, Section 25-10-1e. McWilliams and Fosters' No. 2 Russell, Section 25-10-1e, has started drilling. Minnesota Oil Corp.'s No. 1 J. M. Cotton, Section 25-9-2e, is drilling at 600 feet. Mistrot and associates' No. 1 Russell, Section 26-10-1e, tested dry at 1,537-43 feet, and was drilled to 1,549-54 feet where another test will be made.

Natural Gas & Fuel Corp. is active with eight tests in Urania. No. 1-B T. Russell, Section 26-10-1e, is a derrick; No. 2 Frank Tullos, 810 feet south and west, NE cor. NW SE, Section 26-10-1e, is a derrick; six-inch was cemented at 1,540 feet at No. 3 H. Tullos, Section 26-10-1e, and 6-inch is being set at 1,483 feet at No. 5 Urania, Section 26-10-1e. No. 6 H. Tullos, 130 feet north and 700 feet west, SE cor. SW NE, Section 26-10-1e, is a location, and No. 7 H. Tullos, 470 feet north and 520 feet west, SE cor. SW NE, Section 26, is a location. Six-inch casing was cemented at 1,521 feet at Nelson and associates' No. 1 Bryant and Harvey, Section 26-10-1e. Ohio Oil Co.'s No. 6 Urania, 200 feet north and west, SE cor. NW NE, Section 18-10-2e, is a rig, and No. 7, 230 feet north and 150 feet east, SW cor. NW NE, is a derrick.

Ozley and associates cemented the 6-inch casing at 1,522 feet at No. 1 fee, Section 25-10-1e. Roberts and associates' No. 3 Russell, Section 25-10-1e, is being cored at 1,500 feet, and a rig is up for No. 4 Russell, NE cor. W half NW SE. Roberts and associates' No. 5, 100 feet north and east, SW cor. NW SE, Section 25-10-1e, is a rig, and No. 6, 100 feet north and west, SE cor. W half NW SE, is a derrick pattern. Rowe and associates' No. 1 Urania, Section 5-10-2e, is coring at 1,552 feet.

Standard Oil Co.'s No. 3 Urania, Section 19-20-2e, is being bailed to test sand at 1,553-56 feet. Drillers are fishing for the swab with a hole full of oil from sand at 1,527-30 feet at Standard's No. 5 Urania, Section 13-10-1e, and a derrick has been built for No. 6, 330 feet north and west, SE cor. NE SE. Sterling, Incorporated cemented the 10-inch at 107 feet at No. 1 Wimbley, Section 18-20-2e. George W. Wetherbee's No. 2 Norris, 810 feet south and 100 feet west, NE cor. NW NW, Section 25-10-1e, is a rig. Six-inch was cemented at 1,520 feet at Wetherbee's No. 1 H. Tullos, Section 26-10-1e. Williams Drilling Co.'s No. 3 Herbert, Section 26-10-1e, is to be tested at 1,528-39 feet, and the 10-inch was set at 100 feet at No. 4 Herbert.

Bossier Parish

Two small wells were completed in the shallow producing Bellevue Field. Hanby, trustee, No. 2 Larkin, Section 14-19-11, is pumping 10 bbls. from sand at 386 feet. Louisiana Oil & Refining Corp.'s No. 30-B Bodcau, Section 15-19-11, was completed for a 25-bbl. pumper at 382½ feet. Autrey and associates set the 6-inch at 352 feet at their No. 2 Connell, Section 15-19-11. George W. Wetherbee's No. 1 Smith, Section 23-19-11, is drilling at 389 feet.

In the Bossier Parish wildcat area, Arkansas Fuel Oil Co.'s No. 1 Murray, Section 14-23-14, is drilling in a sand formation at 2,870 feet. Woodley and Collins' No. 1 Kilburn, Section 18-19-13, topped the sand at 2,563 feet, and penetrated it 8 feet. Six-inch casing is being set at 2,550 feet before a test is made. Same operators are rigging up at No. 1 L. & A. Oil Co., Section 14-23-12.

Caddo Parish

Caddo completed the week with six new wells, all small pumpers. Brewster and Trahan's No. 1 Jolly, Section 23-22-15, was finished at 1,000 feet for a 20-bbl. pumper. Dixie Oil Co.'s No. 6 Donovan, Section 21-22-15, is an 8-bbl. pumper from 1,070 feet. Dixie Oil Co.'s No. 73 Robertshaw was completed at 1,701 feet for a 12-bbl. pumper. Double I. Oil Co.'s No. 5 Wadkins, Section 27-21-15, is pumping 30 bbls. daily from 1,630 feet. O'Dell and Lawton's No. 6 Red Bayou, Section 15-21-15, was completed at 1,564 feet, and is pumping 10 bbls. daily. Lewis Oil Corp.'s No. 6 Vespy, Section 15-21-15, is pumping 5 bbls. from 1,585 feet.

Arkansas Natural Gas Co.'s No. 1 C. W. Lane, Section 13-21-15, is drilling in sand and lime at 2,627 feet. H. J. Bussa's No. 1 Hardeman, Section 24-22-15, tested a show of oil at 1,050 feet, and is to be deepened. Dixie Oil Co.'s No. 1 Jolly, Section 27-22-15, is grinding away in shale at 3,935 feet, and No. 15 Muslow, Section 7-20-15, is drilling at 400 feet. Dixie Oil Co.'s No. 71 Robertshaw, Section 14-21-15, is boring through lime at 3,200 feet.

Gulf Refining Co. has started drilling on its No. 1 Byrd, Section 2-19-14, another Caddo deep test. The 12½-inch casing was set at 365 feet. Six and five-eighths-inch casing is to be set at 2,150 feet at Gulf Co.'s No. 4-U L. B. Caddo, Section 16-20-16, and No. 5-U Caddo is a rig. Gulf Co.'s No. 222 Ferry Lake, Section 16-20-16, is in 20 feet of sand topped at 2,260 feet with 125 feet of oil and 750 feet of water in the hole. No. 229 is drilling in gumbo at 2,275 feet, and No. 230 is drilling at 1,195 feet. A rig is up for No. 231 Ferry Lake, 2,050 feet east and 900 feet south, Section 22-20-16. Gulf Co.'s No. 17 Lane, Section 13-21-15, is drilling in hard gray lime at 3,670 feet, and the 8¼-inch casing was set at 2,553 feet at No. 1-E Muslow, Section 35-21-15. Gulf Co.'s No. 12 Tyson, Section 14-21-15, is drilling through hard broken lime at 2,700 feet.

Six-inch casing was cemented at 1,412 feet at Magnolia Petroleum Co.'s No. 23 Raines, Section 22-21-15. Maine Drilling Co.'s No. 1 Cunningham, Section 15-17-14, is drilling at 1,800 feet. Ohio Oil Co.'s No. 1 J. S. Ardis, Section 1-21-15, is shut down for orders at 4,084 feet. Ohio Oil Co.'s No. 18 E. K. Smith, Section 12-21-15, is waiting for the cement to set at 3,845 feet. Page and Caldwell's No. 1 Hobbs, Section 29-21-15, is shut down at 1,770 feet. D. C. Richardson's No. 13 Youree-Randolph, Section 13-20-15, is drilling at 1,350 feet. B. L. Spell's No. 1 Thigpen-Herold, Section 10-21-16, is drilling at 1,060 feet. The Texas Company's No. 42 C. M. L. Co., Section 23-21-15, is drilling in hard lime at 3,133 feet, and No. 1-B F. J. Bayou, Section 15-20-16, is drilling in hard gray lime at 4,303 feet. The Texas Company's No. 60 Levee Board, Section 33-21-16, is waiting for a standard rig at 1,828 feet, and No. 61 is a rig. Six-inch was cemented at 1,445 feet at The Texas Company's No. 12-B Noel, Section 14-21-15. Six-inch casing was cemented at 2,355 feet at The Texas Company's No. 57 S. P. Harrell, Section 4-21-16, and No. 52 is drilling in sandy shale at 1,093 feet. The Texas Company's No. 11 Russell, Section 3-20-16, is being cleaned out at 2,283 feet.

Claiborne Parish

Gilliland Oil Co.'s No. 1-D G. W. Taylor, formerly No. 10-B, Section 14-23-8, has started drilling. Standard Oil Co.'s No. 4 Shaw, Section 30-21-7, is waiting for a standard rig at 2,083 feet. Triangle Drilling Co.'s No. 1 Keen, Section 7-19-5, is coring lime at 3,996 feet.

DeSoto Parish

Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, is drilling in shale at 3,524 feet. Carl K. Dresser's No. 1 Williamson, Section 29-15-14, is drilling in shale and rock at 893 feet. J. P. Evans has staked a location for No. 1 Sutherlin, NW cor. SE, Section 20-12-14. Ohio Oil Co.'s No. 1 Cody, Section 34-12-16, is drilling at 560 feet.

Ouachita Parish

Two more wells were added to the Monroe Gas Field last week when J. M. Huber's No. 7 fee, Section 30-19-5e, was completed for a 2,000,000-foot gas well at 2,222 feet, and the Pioneer Oil & Gas Co.'s No. 1 Filihol, Section 11-18-4e, was completed at 2,220 feet for 2,000,000 feet of gas.

Central's No. 1 Cole, Section 35-20-4e, is drilling at 856 feet after cementing the 12½-inch at 182 feet. G. E. Jordan's No. 1 Miller Roberts, Section 12-18-4e, is making 20,000,000 feet of gas from sand at 2,207 feet and is shut down for orders. Ladell and associates' No. 33 fee, Section 36-19-4e, tested 750,000 feet of gas at 2,228 feet and is shut down for orders. The big pipe was set at 135 feet at Palmer Corp.'s No. 2 Kate Cole, and the test is drilling at 653 feet. Palmer Corp.'s No. 2 fee, Section 24-19-4e, is rigging up. United Carbon Co. cemented 8-inch casing at 806 feet at its No. 1 Wilson, Section 24-20-4e.

Webster Parish

Ten-inch casing was set at 260 feet at Alabama Petroleum Co.'s No. 3-B Robbins, Section 21-21-10, and the test is drilling ahead at 500 feet. Arkansas Natural Gas Co.'s No. 1 Miller, Section 30-23-9, tested 2,000,000 feet of gas at 2,709 feet, but will pass up the show and drill deeper. Gulf Co.'s No. 2 Coyle, Section 21-21-10, is drilling at 590 feet after setting the 10-inch to 365 feet.

Humble Oil & Refining Co.'s No. 1 R. R. Cox, Section 22-21-10, is milling out junk at 4,214 feet. Louisiana Oil & Refining Co. has a derrick up for No. 4 Chrichton, NW cor. NE NE, Section 21-21-10. Magnolia Petroleum Co.'s No. 1 Bible, Section 8-20-9, is drilling out the cement plug at 4,265 feet. Magnolia Petroleum Co. is arranging to test sand at 2,540-44 feet at No. 1 Tiner, Section 21-21-10. Six and five-eighths-inch casing was cemented at 2,560 feet at Ohio Oil Co.'s No. 37 Bodcau, Section 21-21-10.

Ohio Oil Co.'s No. 1 W. Cox, Section 23-21-10, is fishing for the drill stem at 4,829 feet. Same company has a rig up for No. 3 Holloway, Section 23-21-10, which is to be a deep test. Same company's No. 6 Sidney, Section 29-33-11, was the only completion in Cotton Valley last week. It was finished for a 50-bbl. pumper in sand at 2,531-36 feet.

Scattered Wildcats

Grant and Pipes', formerly Alexander and associates, No. 1 Cruse, Section 6-11-4e, Caldwell Parish, is a rig. Dowling and McCurry's No. 1 Swope, Section 18-19-1e, Grant Parish, is shut down at 1,615 feet, waiting for pipe. Buckley and Palmer's Lincoln Parish test, No. 1 Davis, Section 12-20-3w, is shut down at 1,900 feet for fuel. The Texas Company's No. 1 Tremont, Section 27-18-1w, is drilling at 2,275 feet. In Morehouse Parish, Boisseau and associates' No. 1 Sullivan, Section 11-21-7e, is being delayed by a fishing job at 2,545 feet. Carnahan and Kyle's No. 1 Hollingsworth, Section 24-12-11, Red River Parish, has started drilling. In Sabine Parish, L. M. Emlet's No. 5 H. L. Bowman Co. is waiting for cement to set at 3,298 feet. Arkansas Fuel Oil Co.'s No. 1 Reeves, Section 14-20-1e, Union Parish, is drilling in lime at 2,961 feet.

Keene and associates have started drilling their No. 1 Frost-Johnson, SW NE, Section 18-23-1e, Union Parish, and set the 10-inch casing at 110 feet. Louisiana Power Co.'s No. 1 Thompson, Section 16-20-3e, is drilling at 2,110 feet. In Winn Parish, Cherokee Petroleum Co.'s No. 1 Urania, Section 13-11-1e, is coring a shale formation at 1,420 feet. Cedar Creek Petroleum Co.'s No. 1 Sullivan, Section 6-10-2w, is drilling in shale at 1,070 feet.

New Wells at Lisbon

Extending production north to the south line of Section 4-17-16, Lisbon ended the week with 2,020 bbls. of initial production from 7 new nells.

Owens and associates' No. 1 Slaughter, SE SW SW, Section 4-17-16, extended the production north when it was completed in sand at 2,118-31 feet, making 175 bbls. naturally. Magnolia Petroleum Co.'s No. 1 Slaughter, Section 9-17-16, the Magnolia's first well in the new pool, carried away the honors when it was finished in sand at 2,097-2,117 feet, making 625 bbls. naturally.

Atlantic Oil Producing Co.'s No. 3 Slaughter, same section, came in making

(Continued on Page 131)

PANUCO WELL RATED 15,000 BARRELS; EBANO SECTOR 8,000-BARREL WELL

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mex., Apr. 9.—The past two weeks have seen no less than 36 completions in Mexican fields of which 12 belong in the production column and the remainder are failures. The new production resulting is, flush, 35,675 bbls.; all of which is in the northern fields with the exception of 5,000 bbls. in the south fields.

The biggest well of the group is Transcontinental Petroleum Co.'s No. 22 Barbarena, in the old Panuco Field, which is rated good for 15,000 bbls. at 1,620 feet, a shallow well. Next in line is Mexican Petroleum Co.'s No. 10 Midway, in the Ebano sector, rated 8,000 bbls. at 1,782 feet, another shallow well. Mexican Petroleum Co. has a 50-bbl. well in its No. 42 Chijol finished at 2,231 feet. The same company is reporting an enormous gasser at this writing in its No. 85 La Dicha. This gas stratum was tapped at 1,395 feet in a blue lime, (a phase of the San Felipe), and the volume is estimated at 17,000,000 feet. It is being observed as it is thought oil will undoubtedly follow the gas. La Corona Petroleum Co., after many failures, gets a 3,500-bbl. in the Corcovado sector, it being its No. 22, Lot 6 there, the drill getting the pay at 1,865 feet. Mexican Gulf Oil Co. has a 2,000-bbl. well in the same sector, its No. 34 Chapacao, completed at 1,758 feet. An Island Oil & Transport Corp. subsidiary gets a 1,200-bbl. well in Lot 12 West Maguabes in the old Panuco Field at 1,340 feet. but as this is quite shallow the drill may be sent deeper in the hopes of increasing the pay. Transcontinental Petroleum Co.'s No. 237, Lot 4, Cacalilao, is good for 200 bbls. at 1,920 feet. The Texas Company has a 100-bll. well in its No. 4 San Martin (Topila sector), finishing at 2,368 feet. East Coast Oil Co.'s No. 54-A Laguna de la Milpa, in the Panuco, is good for 50 bbls. at 1,955 feet. Mexican Sinclair Petroleum Corp.'s No. 19 Tananturo (Panuco) is 25 bbls. at 1,925 feet.

In the south fields, Mexican Eagle Oil Co. scored again in its Cerro Veijo sector, getting a 5,000-bbl. well in its No. 33 there at a depth of 2,151 feet.

Wildcat Failure

Among the northern fields' failures the past week the most interesting one was Rich Mex Oil Co.'s No. 1, Lot 20, Altamira, in the State of Tamaulipas, north of Tampico. This test finished a dry hole at 3,050 feet, in the Tamasopa limestone. It had some showings of oil and gas around 1,900-2,000-foot levels, in the San Felipe. The Tamasopa was found just over 2,500 feet, and the drill was kept going to make a thorough test of it. The result is noted.

Other Failures

In the northern fields the failures have been many. They are best listed as follows: In Panuco: East Coast Oil Co.'s No. 57 Laguna de la Milpa; its 458 Ingenio and 230 Halcon, are all dry at 1,985, 1,878 and 2,120 feet respectively. Credito Petrolero's No. 1 and No. 8 Piedras, each in salt water at 1,882 and 2,040 feet respectively. Empire Gas & Fuel Co.'s No. 11, Lot 16 W. Maguabes and No. 8-A, Lot 11, same, each in salt water at 2,340 and 2,365 feet respectively. Mexican Sinclair Petroleum Corp.'s No. 8 Gutierrez, a dry

(Continued on Page 133)

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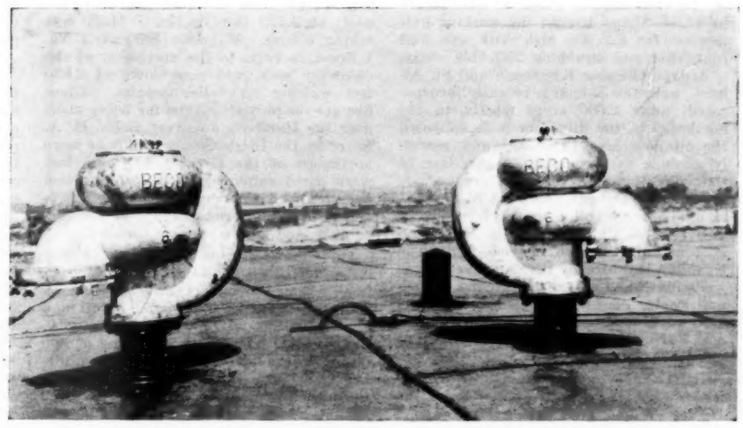

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Find New Pool in Jim Hogg County

Kitselman & St. Albans' No. 27 Holbein Makes 115 Bbls. in 30 Minutes and No. 29 is Making 45,000,000 Feet of Gas

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Apr. 12.—The Mirando territory in southwest Texas last week recorded a new discovery well and a new pool, the second to be found away from the Reynosa Escarpment, and about the fourth or fifth to be found laying to the east of a gas area. The well was brought in by Kitselman & St. Albans, on Block 40 of Section 11 of the Holbien ranch in Jim Hogg County and it kept a stream of oil up into the derrick for an hour and a half. It was then turned off. The well was bailed down only 900 feet when it came in. Total depth is 2,139 feet. It came in Tuesday afternoon, April 6, and the next day was turned on through a 1¼-inch choker and put 115 bbls. of oil in steel storage in 30 minutes, according to an official statement of Edward St. Albans of Kitselman & St. Albans.

Two days later the same company's No. 1 M. E. Weber on Block 1, Section 15, 1,030 feet southwest of the new No. 27 Holbien, came in at practically the same depth and made about the same showing for an oil producer. No. 29 Holbien of the came company located on Block 24, Section 11, about 1,030 feet north of No. 27 Holbien came in also last week as a 45,000,000-foot gasser. No. 28 on Block 6 of Section 11 is on the sand ready to be brought in. It looks like a gas well. This makes the new field present an interesting study as to where the oil pool will lay. There are gas wells to the west and south between two oil wells and the Henne, Winch & Fariss Pool and one gas well completed and another sitting on the sand to the north.

Late last week liners were being run in the two oil wells due to the discovery that they were drilling themselves in when turned on. No disposal had been made of the oil though a 2 or 3-mile extension of the lines to the Henne, Winch & Fariss Field could soon be made. The oil is practically the same gravity and about the same horizon as in the Henne, Winch & Fariss Pool.

The map accompanying is an approximate location only and is given to show the relative position of the various pools of the Mirando district, the Carolina-Texas gas district and the new Cin-Tex Petroleum Co.'s discovery well in the Cole Gas Field in Duval County. The map being small scale shows only the approximate position. There should be more space between the new well and the producing area of the Henne, Winch and Fariss Field. The new well is about 2 miles or more to the east of the Reynosa Escarpment.

Oil East of Gas

The Henne, Winch and Fariss Pool was the first to be found in that territory by following the theory that oil was to be found to the east of the gas. It took three tests to find it. The first was a gasser. The second a little farther east was a gasser spraying oil and the third opened the pool and was one of the best wells in the district. It made a little oil the first day and it was thought worth but little. It was agitated and swabbed and production kept increasing until it was making around 2,000 bbls.

The Cin-Tex Petroleum Co.'s well in the Cole Gas Field was the most notable instance. It was drilled with the expectation of getting gas but came in an oil well and is now making 750 bbls. flowing through one three-eighths-inch and one three-quarter-inch choker. Its depth is 1,781 feet. The Henne, Winch and Fariss discovery well is a little over 2,000 feet deep and the St. Albans well 2,139 feet deep. Quality of the oil in the St. Albans well is practically the same as in the other Mirando Pools, a lub oil with a posted price of $1.15.

Gas is found all along west of the Mirando Pools. While the pools, in the parlance of the local industry, have been given separate names, for the most part only the lease line divides them. The two gassers shown on the map a little south and west of the territory designated as the New Alberca Field and north and west of the Andrews Petroleum Co.'s gasser were recently purchased by Simms Oil Co. from Kirkpatrick-Lucas with 490 acres of leases around them for $87,000 of which $33,000 was paid in cash and the remainder is to be paid in oil. Of the two producing oil wells shown next to the northeast of them the first is the Ball well on Block 45 of the Bruni and the other the Aviator Star Oil Co. well on the west half of Block 18 (80 acres) in which Simms bought the working half interest for $20,000 cash with one well completed and swabbing 250 bbls. daily.

Around the new Kitselman and St. Albans' well, the company, recently incorporated, owns 2,600 acres mostly to the northeast in the direction it is supposed the oil pool lays. The company recently made a rather extensive purchase in that direction and the new producer is on the new acreage. Edward St. Albans is a miner and oil operator formerly of Denver and California. Mr. Kitselman is a manufacturer of Muncie, Ind. The company had already developed seven gas wells north and east of the Henne, Winch and Fariss Pool besides owning considerable oil production in the Henne, Winch and Fariss Pool.

There seems to be no question but that the new well has opened a new pool separate and distinct from the Henne, Winch and Fariss Pool though producing from the same horizon.

Piedras Pintas

In the Piedras Pintas district in Duval County, 25 miles northeast of the Cole Field where Humble Oil & Refining Co. brought in the discovery well, No. 4 Walsh, on December 20, three tests are down to the depth of the discovery well and two of them past it and a third is nearly down to the depth. Total depth of discovery well is 3,623 feet. The Humble's No. 5 Walsh, 450 feet southeast of the discovery well, is at 3,788 feet. At 3,784 feet it encountered rock. At 3,788 feet it had a considerable showing of oil and gas and was taking a core. Moody-Seagraves and William F. Morgan's No. 1 Walsh, 450 feet west of the discovery well, tested at 3,619 feet and bailed 2 bbls. of oil to 6 of salt water. Late last week they were resetting perforated liner to take in a showing at 3,400 feet and will test again before drilling deeper. J. K. Hughes' No. 1 Peters, 1,800 feet north of the discovery well at 3,582 feet cored a sand that had a strong odor of oil and showed considerable gas. Grayburg Oil Co., a half mile north of the discovery well, at 3,725 feet in No. 1 Halff was taking a core. Magnolia company's No. 1 Speer, a little to the northwest of the discovery well, was shut down at 2,830 feet waiting for boiler repairs. Those five are the only tests thus far being made near the Humble's discovery well. H. A. Speer on the Lizzie Singer a mile or more northwest of the Humble well late last week cored sulphur at 441 feet and had passed an oil showing at 435 feet. It is being drilled for the purpose of locating sulphur and seems to have found it.

On the Palangana salt dome, a few miles northwest of Noleda, Humble company's No. 4 Schallert after passing 14 feet of sand with a showing of oil and gas is drilling at 2,969 feet in gumbo. Simmos No. 1 Schallert is drilling at 300 feet. Maurer & Duggan on the Willie Hoffman farm in Survey 123 farther northwest is drilling at 1,106 feet and Tom Graham on the Beall farm in the northeast corner of the county is drilling at below 1,400 feet and reported to have a showing of oil.

Cole Field

In the Cole Field in the southeast corner of Duval County where Cin-Tex Petroleum Co. brought in the discovery oil well recently the Cin-Tex's No. 1, or discovery well, and the Cin-Tex's No. 2, located a little to the northeast, are each making through 1¼-inch choker and the two together putting 1,200 bbls. of oil daily into the Magnolia pipe line. The wells are making about the same amount. No. 2 came in for a time a gasser and was somewhat of a disappointment. Cole's No. 17 Benavides when completed three wetks ago flowed oil but a little later made a big head of oil, about 1,700 bbls. altogether and then went to gas. The well has been shut in for a time but last week was turned into a separator and is making considerable gas and some oil and the oil increasing in volume giving every indication that it is coming back to oil. Houston Oil Co.'s No. 1 Benavides which offsets the discovery well on the east came in an oil well but failed to flow. Last week it was rigged up and put on the pump and started off pumping at the rate of about 575 bbls. per day.

Cin-Tex company's No. 3, two locations to the northeast of the discovery well, and the Houston Oil Co.'s No. 3 which is a southeast offset to the Cin-Tex's No. 3 reached the pay depth two weeks ago and looked discouraging. Late last week they were being deepened and were looking considerably better with showings of oil and gas. All of the completions are close around 1,790 feet. Humphreys-Moody-Seagraves' No. 2 Benavides, a mile north of the Cin-Tex discovery well and a little east, which came in originally as a gasser with a trace of oil, has been deepened and found 61 feet of sand with the cores in the lower part of the sand carrying a high saturation of oil. Below the sand was rock and below the rock dry sand which has been plugged off and the well was about ready Sunday to be brought in again. It has a chance of making an oil well.

Drilling Operations

Houston Oil Co.'s No. 2 Benavides, offsetting the Cin-Tex No. 2 is testing at 1,799 feet, having been deepened a little. Houston company's No. 4 is drilling at 1,200 feet. Cin-Tex has the derrick up for No. 4 but will drill No. 5 next which is 300 feet north of No. 1. True White has timber on the ground for derrick for his No. 1 on Block 4 of Section 15 off to the south. Barkley & Meadows-Morgan are drilling at 1,600 feet in No. 1 on Block 4 of Section 10, and have locations made for three others on the same block. Humphreys-Moody-Seagraves are preparing to drill No. 1 King Harper. Gibson Oil Corp. has rigged up on Survey 353, a mile to the east of the Cin-Tex, and Ball is rigging up on Block 463, 2 miles to the east. Cole Petroleum Co.'s No. 16 Benavides is drilling at about 400 feet. No. 18, which is an offset on the southwest to the Cin-Tex discovery well, is drilling at 1,000 feet and by the end of this week should be on the sand.

Elsewhere in Duval County among the wildcat tests Simms Oil Co. is drilling at 2,540 feet in the Bennett ranch test 6 miles northeast of the Cole Field and has a location made on the Dinn ranch in Survey 666, 200 feet from the south and west lines.

Jim Hogg County

Houston Gulf Gas Co. (Moody-Seagraves) on Survey 291 last week completed No. 7 Palacios and its second well in the tract located 300 feet west of the Pippin-O'Byrne discovery well brought in last year. No. 7 Palacios completed at 1,250 feet flowed at the rate of 1,000 bbls. a day when it first came in and was a surprise to the field since the discovery well completed at 1,270 feet came in a pumper, the oil coming to within about 100

GARLAND KENT PLANS TRINITY SAND TEST IN POWELL FIELD

By Special Correspondent

CORSICANA, Tex., Apr. 10.—The interesting test of the Transcontinental Oil Co. on the Ross farm, a few miles west of Mexia, should be completed in the course of a week. The company has been drilling very slowly, first coring a few feet and then drilling, feeling the way carefully and keeping a close line on what the core barrel develops. The well is believed to be below 2,850 feet. There was 463 feet of Austin chalk, topped at 2,042 feet. Close attention has been paid to this well as its location has the approval of a lot of smart oil men.

Wind early Tuesday morning wrecked a number of derricks in the Powell and Wortham Field, and in scattered places along the Mexia Fault line.

The test of Collington and others on the Clapp lands, Jewell survey, Cherokee County, was last reported coring at 3,384 feet. The Humphreys Corp. is rigging up on No. 1 Ousley, Dillard survey, in the same county.

In Hunt County, the Rycade Oil Co.'s No. 1 Robinson, Rush survey, was abandoned but the total depth was not learned. This test got Austin chalk at 1,885 to 2,420 feet, and cored Blossom sand at 2,490 feet.

In Ellis County, Shubert and Scott's No. 1, on the Ennis Water Co's land, which was drilled to 3,559 feet with no showing of oil or gas was plugged back to 1,800 feet where it is a fresh water well.

Garland Kent is planning a Trinity sand test on one of his leases in the Powell Field. This would be a 4,000-foot test and would arouse much interest. It has long been held by some geologists that the Woodbine sand in this territory came from the Trinity sand. This is only one of several theories, one of which is that the oil fed up the plane of the fault and another that it fed along the line of the fault. Mr. Kent is one of the Trinity sand theorists and he is expected to back his belief with his money.

The test of DeArmond and others on the Elliott farm, between the Powell and Richland Fields, in Navarro County, is located in a spot near which no dry holes have been drilled. In other words, there is nothing to condemn the location. The test is below 3,017 feet, which is pretty deep for pay in that part of the territory. The chalk lay at 2,110-2,540 feet. This test is not attracting the attention that others in the field are receiving.

feet of the top. Houston Gulf company is drilling its No. 9 located to the north and rigging up on two other tests to the west of the Pippin-O'Byrne well. Magnolia is also starting another well on Block 10 off to the northeast of the Pippin well.

Simms Oil Co. and E. L. Smith Oil Co. have abandoned their test on Survey 233, 2 miles southeast of the Pippin-O'Byrne Field, at 3,029 feet and are moving in on Block 7 of Survey 143 farther west. Braswell pulled in the derrick while pulling casing in No. 1 Vela on the White subdivision but has rebuilt it and will deepen the well from a little below 1,600 to 2,500 feet. Murchison & Fain have spudded in their test on Survey 452. Killam has abandoned at 3,340 feet his test in Block 1, Section 2 of the Holbien ranch. Simms company's No. 1 Jones on the Oscar Thompson ranch is drilling at 3,032 feet. Pittsburgh Oil Development Co.'s (Benedum & Trees) No. 1 Wilbur Allen is drilling at 1,700 feet and the National Oil Co. test on the same ranch is drilling at 1,300 feet.

Webb County

Most of the drilling in the proven district of the Mirando Field is in the territory south of the Aviators or Edgington Pool and north of the original Mirando Valley Pool. In this territory, which has been extended in two directions, south and southeast, Rydal-Crown Central's No. 5 Bruni at 1,728 feet and No. 6 Bruni at 1,700 feet and No. 7 at 1,711 feet are all waiting with casing set for machines to drill in with. Location has been made for No. 8. Ball's No. 4 Puig has been abandoned at 1,728 feet on Block 74 and his No. 1 Bruni on Block 13 is moving in. Crown Central-Keene's No. 1 "B" is swabbing 1,400 bbls. at 1,726 feet. Simms Oil Co., which bought the half working interest in the west half of Block 18 with one well completed and swabbing 250 bbls., has started No. 2 and Sun Oil Co.'s No. 2 on the east half of Block 45, one location south of its No. 1, is testing and showing oil but a little salt water. Gibson Oil Co. is preparing to move in on the northwest corner of the east half of Block 13. Bruni & Killam have spudded in on the first of two tests they are to drill on Survey 835, the first being 200 feet from the south and east lines of Block 7. W. O. Wheatley has the derrick up and is moving in to drill in the northwest corner of the east half of Block 43.

In the Carolina-Texas district Associated company's No. 3 Webster is on the sand at 2,137 feet. U. S. Gas & Oil is standing at 2,100 feet. Snowden & McSweeney have a 25,000,000-foot gasser on Survey 682. Morgan is resuming drilling at 2,250 feet in Block 6, Survey 336. Moody-Seagraves & Morgan are testing with a good core at 2,600 feet on Block 61 of Section 261. Roark on 261 tested salt water at 2,619 feet. J. H. Winch is moving in on Block 12 of Section 336. Ritchison is drilling at 1,600 feet on Survey 71.

Zapata County

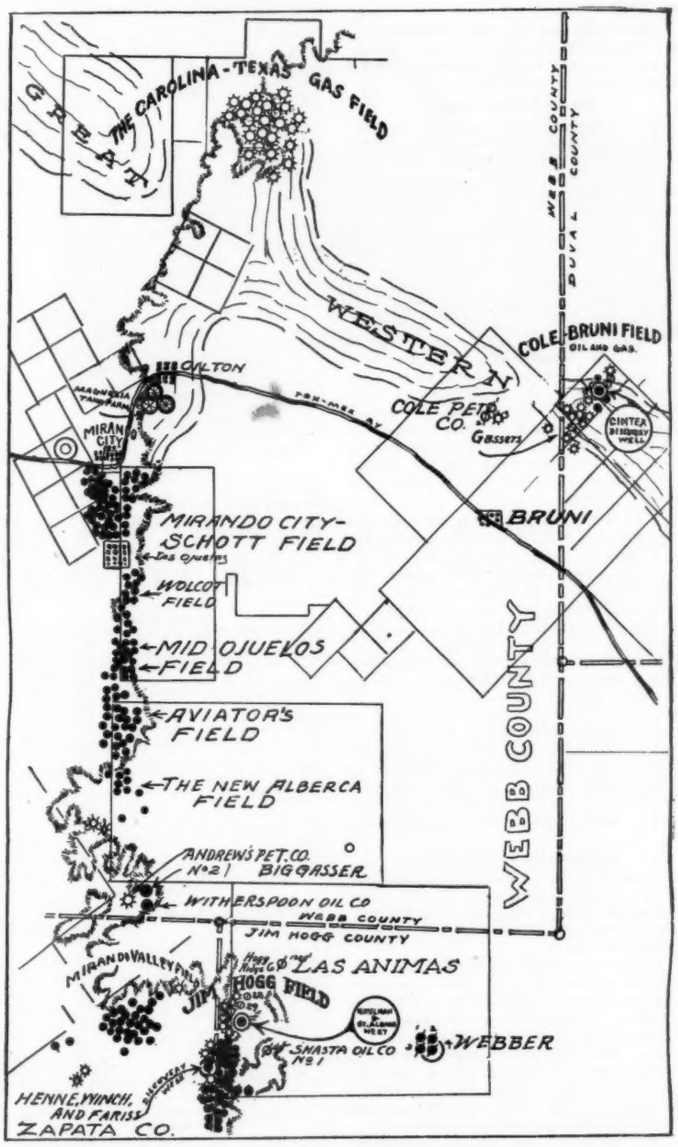
The Texas Company in the Jennings gas field in Zapata County southwest of the Mirando Valley oil field has cored at 3,959 feet and has a gas sand with a trace of oil. No. 1 Jennings last year came in a big gas well at 3,965 feet and ran wild for a few days but was controlled and the casing pulled and the well plugged. No. 2 was drilled near by and there is a belief that whether it comes in making gas or oil it will indicate the probability of an oil field in that territory since oil is found in association with gas in so many instances in the Laredo country. A few days will probably see the well finished. If a big producer it will be the forerunner of a big campaign for deep drilling. It is counted the most important test in the Laredo country at this time. Cullinan & Clark have the derrick up for a test on Block 9, Survey 10, and J. C. Hale has a derrick up for a test on Survey 51 in Zapata County.

Medina County

The most active wildcat territory in south Texas last year was in the Balcones fault zone from San Antonio to the east and northeast through eastern Bexar, Guadalupe, Caldwell, Bastrop and into Milam Counties. While there is a new movement to redrill that territory the Balcones Fault zone west of San Antonio through southern Bexar County is far in the lead in the number of wildcat tests and with still others being framed and soon to be announced. The Ina Field with 20 producing wells is largely a question with the production man, the matter of the loose sand and heavy oil being still a problem not solved. The wells are just short of 1,000 feet deep and it is a fight to keep the production up around 25 bbls. daily for the later completions. Gibson Oil Corp. has completed No. 4 Viola Wilson, in P. E. Durst survey No. 15, at 987 feet. Ina Oil Co., 600 feet north of its No. 1 Viola Wilson, and a mile west of the Gibson and Golden West wells, has completed No. 2, which is not showing for a very big well. Casing was set at 887 feet. It looks like less than a 10-bbl. well. Arnett Oil Co. is completing its No. 3 Nixon. Casing was set at 837 feet and the well was drilling in Saturday with good showings of oil on the slushpit. It looked like a good well. L. Smith on the J. C. Jay farm a mile west of the Ina Oil Co.'s Viola Wilson wells has been on a hard rock ever since starting and is down but 200 or 300 feet. Golden West's No. 5 Schmidt is drilling and is down a few hundred feet. It should be on the sand by the end of another week.

New Hondo Field

In the new Hondo Field, 4 miles south of Hondo where the Medina Oil Co. completed its No. 1 Taylor recently at 356 feet pumping around 100 bbls. a day a number of tests have been drilled but not with such good results as in No. 1. A 5,000-bbl. steel tank was completed about three weeks ago and since that time No. 1 Taylor has been pumping around 100 bbls. of oil daily besides some water which made about 25 per cent of the volume. No. 2 Taylor, 300 feet west, at 315 feet is a 12-bbl. well. It drilled to over 400 feet without improving the production. No. 3, located 300 feet north of No. 2, at 256 feet, is setting 8¼-inch casing and with a considerable showing of gas. Golden West's No. 2 Odem, at 266 feet is waiting for repairs. It is the first well to have a log practically identical with No. 1 Taylor, and is looking hopeful. Golden West's No. 1 Batout to the west of the discovery well is drilling at 451 feet, and without any showing. Al Buchanan's No. 1 Odem, 750 feet north of Golden West's No. 1 Odem set 8¼-inch casing at 196 feet. At 174-178 feet it tested a sand good for a barrel of oil a day. Doctor Schlottman and others are drilling at 200 feet on a test on the Richter land a mile west of No. 1 Taylor, the test having been started last week. Mrs. Holley and others are rigging up on the Haeglin farm in survey 1473. Kittle and Townley are letting their No. 1 Richter stand at 650 feet, where it tested dry and are drilling at 200 feet on No. 2 Richter, a little to the north. Medina Oil Co. has made a location for No. 1 Mott, on survey 1267. K. Reager and others on the Langfeld Survey 117, are drilling at 730 feet, and have made a location on the Schrieber in Survey 115. Cavender and Jameson's No. 1 Mott shut down for repairs has made the repairs and resumed drilling and is at 400 feet. Kittle and Townley on the Batout are shut down at 75 feet. The same interests have made a location for a deep test on the Bendel farm in Survey 593. Ina Oil Co. is rigging up on the Finger tract in western Medina, a wildcat test. Grayburg Oil Co.'s No 1 P. S. Ward is drilling in the Buda lime at 1,930 feet. Plateau Oil Co.'s No. 1 Harrison on Survey 72½ is drilling at 260 feet. Jacobs & Powell's No. 1 Haeglin has spudded in and drilled 305 feet. Schermerhorn Oil Co. is building the derrick for a new wildcat test on Survey 31 on Medina Irrigation Co. land east of Noonan in the eastern part of the county. Hudson and others have rigged up on the second test drilled on the Christillies land west of Noonan by Judge J. S. Wheeless four years ago and are deepening it from 1,130 feet and now drilling at about 1,500 feet.



Wildcat Near Devine

J. R. McCadlin of Wichita Falls, Tex., is preparing to move in on a wildcat test west and a little south of Devine on geology worked out by major company geologists. It will be an Edwards lime test. The old Kimball well drilled south of Devine in what geologists at the time said was a syncline got a lot of oil, so much that it almost made a well. This was taken as proving the existence of an accumulation of oil and the McCadlin test to the northwest and nearer the fault to be a logical location.

Cecil Switzer's No. 1 Zerr, northwest of Hondo, is drilling at 1,500 feet. Gibson Oil Corp. tested No. 1 Saathoff south of D'Hanis and got a little oil at 465 feet but will drill deeper. Same interest is erecting derrick on Survey 808 southwest of the Ina Field and will spud in within a day or two. Eastham & Tarver are drilling on the Muzzman farm on Survey 16 a mile north of the Ina Field. Alamo Drilling & Leasing Co. has started to drill the Bendelle farm test west of Noonan on the Haeberle survey and has been drilling for three days. The same interests are about rigged up on the Louis Graff Survey No. 20, 2 miles north of the Ina Field, in a test expected to pick up Serpentine. The same company has made a location on the Kennedy farm in western Medina and south of the Southern Pacific tracks, and is moving in. Henderson & Holden have set 6⅝-inch casing and cemented with 150 sacks of cement in No. 1 Adams on the Durst Survey No. 13, a mile or so south of the Ina Field where they unexpectedly ran into a gas sand at 903 feet a month ago that gauged 9,200,000 feet open flow after it had run wild for three weeks. It is mudded in now and will be completed in a few days and the gas used for drilling other wells. If a gas field is developed the location is only 20 miles west of San Antonio. Casing was set at 875 feet. The J. T. Barlow test on Survey 91 a little to the east of the Henderson & Holden gasser has been taken over by Eastham & Tarver and derrick timbers are moving in.

Balcones Fault

Several important tests are getting under headway or about to start in the wildcat territory from San Antonio northeast through eastern Bexar, Guadalupe, Caldwell, Bastrop and into Milam and Williamson Counties. Around some of these tests acreage is selling at a higher figure than it ever did last year. Acreage has moved at around $100 an acre and in some instances, it is claimed, $300. One test due to the popularity of the test and the geology and showings was financed with considerable profit before the well started. In Bexar County Humble Oil & Refining Co. has the derrick up and is starting a test on the Yturri tract, a mile or so east of its tests on the Minna Coreth where it drilled last year and got a small gas well and considerable sulphur water in the Edwards lime. The block is one of the most extensive in the county

(Continued on Page 134)

Upton County Has Important Test

No. 1 Keith Most Interesting Operation in West Texas Encountering Oil Showings; Shut Down Waiting Storage

By George R. Kelley
Staff Correspondent, North Central Texas

FORT WORTH, Tex., Apr. 12.—Probably the most important of the outside tests encountering showings of oil was Zoch and others' No. 1 Keith, in Upton County. The well is in the center of the southwest of Section 92, Upton County, about 2½ miles north of the Republic Production Co.'s No. 1 Baker well.

The Keith well got the top of the pay at 2,550 feet and after drilling about 1 foot into the formation oil rose 500 feet in the hole and at present the well is shut down and standing in that condition. Operations will not be carried further until the arrival at the well of the owners who are now en route. This well is in what is known as the Hurdle district of southwestern Upton County.

The Keith is the only operation in that district that developed anything of interest during the week. However, the Magnolia Petroleum Co.'s No. 1 University in Crane County (formerly Church & Fields) made one flow of 75 bbls. early in the week. This well has been shut down for several days and has not been cleaned out only to within about 12 or 15 feet of the bottom of the hole. Further work will probably be held up until storage is put on the ground.

The Marland Oil Co.'s No. 1 Sanger Brothers in Upton County, which has been showing for a producer for some time, is now listed as a completion, making 75 bbls. of oil daily from the lime formation at 2,230 feet.

Northern Brown County

Northern Brown County furnished its share of new wells during the week, also there are several new producers in the area that have not yet been completed. The Stover-Dunn Pool, southwest of Rising Star, was a little disappointing as it did not develop the increase in production looked for. New wells brought in were not of sufficient production to offset the decline in daily output from some of the older and large completions of the pool. Brown County production fell off from 7,060 bbls. last week to 6,305 bbls.

Among the best completions in the county were the Humble Oil & Refining Co.'s No. 4 Dunn, making 600 bbls.; Barkley and others' No. 4 Dunn, 520 bbls.; Cosden's No. 6 Westerman, 250 bbls., and The Texas Company's No. 3 Dunn, 170 bbls. New producers not yet completed that are showing up well are Barkley & Conway's No. 3 Dunn, making 5 bbls. an hour from sand at 1,100-1,108 feet, and the same operators' No. 5 Dunn which is making close to 35 bbls. an hour from sand at 1,101-1,110 feet. Brown County furnished 1,710 bbls. of new production during the week.

Archer County furnished 1,655 bbls. of new production from 20 new producers out of 32 completions for the county. Among the best Archer completions recorded were The Texas Company's No. 5 Jeske making 485 bbls.; Texhoma company's Nos. 13 and 14 Oldham, making 115 bbls. and 380 bbls., respectively, and Cosden company's No. 3-A Oldham, 125 bbls. an hour.

Other good completions recorded were the Westex Oil Co.'s No. 1 J. A. Whittenburg in Hutchinson County, making 325 bbls., and the Humble Oil & Refining Co.'s No. 1 Cook in Shackelford County, making 600 bbls. daily. The Texas Company's No. 4 Oldham in Montague County is also a new completion making 120 bbls. daily from the sand at 1,128 feet.

In Jack County the Buttram Petroleum Co.'s No. 2 Preston is now carried as a completion, making 50 bbls. from the sand at 2,065 feet.

There was only one gas well reported, the Monroe Production Co.'s No. 1 Hutchings in Coleman County making 3,000,000 feet from sand at 956 feet.

Throckmorton County

In Throckmorton County the Humble Oil & Refining Co.'s No. 1 Ledbetter near the Shackelford-Throckmorton County line is showing for production at a shallow depth. It was started as a deep test and was carrying a 15-inch hole when a sand was encountered at 775 feet. At three feet in the well filled the 15-inch hole 300 feet in oil in 12 hours. At present preparations are being made to drill the sand and give it a thorough test.

Some interest is being shown in the possibilities of production in Cooke County, though the showing developed in Lanier and others' No. 1 Hyman. A sand was found at 1,312 feet and was drilled into about 1½ feet. While bailing the hole the casing seat was lost and drillers are at work now resetting the casing after which a further test will be made on the showing.

Two wells on the Waggoner ranch in the Electra district of Wichita County are showing for producers, though not yet completed. The Humble Oil & Refining Co.'s No. 2-D Waggoner has a shallow sand at 580-588 feet and when put on the pump made 16 bbls. of oil in about 12 hours. The No. 1 Waggoner of Texhoma Oil & Refining Co. and Hammond has a sand at 1,499-1,507 feet, and on the first 24-hour test made a total of 36 bbls.

In Clay County the No. 1 Johnson of the Knox-Finley interests is showing for a producer. The hole is standing full of fluid from sand at 1,713-16 feet and in two days while swabbing and cleaning out it made about 70 bbls. of 38.7 gravity oil.

Average Daily Production

Average daily production for this territory for the week was 174,770 bbls. compared with a daily average the previous week of 171,455 bbls., a gain of 3,320 bbls. daily.

Completions recorded during the week totaled 82, of which 49 were producers making a total of 5,415 bbls. of new production. Thirty-two of the new completions were failures and one was a gas well. This is a rather poor showing in comparison with the record of the previous week when there were 69 producers out of a total of 99 completions, making 9,145 bbls. of new production.

The following table shows the completions by counties for this week together with totals for the two past weeks for comparison:

County—	Comp.	Pro.	Dry	Gas	New Prod.
Wichita	10	5	5	0	95
Wilbarger	8	7	1	0	585
Archer	32	20	12	0	1,655
Young	5	4	1	0	175
Brown	12	6	6	0	1,710
Eastland	3	0	3	0	....
Callahan	1	1	1	0	15
Hutchinson	1	1	0	0	325
Clay	1	0	1	0	....
Montague	1	1	0	0	120
Cooke	1	0	1	0	....
Jack	1	1	0	0	50
Scurry	1	1	0	0	10
Shackelford	1	1	0	0	600
Coleman	1	0	0	1	*....
Upton	1	1	0	0	75
Crockett	1	0	1	0	....
Total this week	82	49	32	1	5,415
Total last week	99	69	27	3	9,145
Difference	17	20	5	2	3,730

*Coleman recorded the completion of one gas well making a total of 3,000,000 feet of gas daily.

PRODUCTION REPORT
For Week Ending April 8, 1926

Burkburnett

Gulf Production Co.	450	
Humble Oil & Refg. Co.	345	
Magnolia Petroleum Co.	2,675	
Panhandle Refg. Co.	250	
Prairie Oil & Gas Co.	15	
Sinclair Oil & Gas Co.	50	
Skelly Oil Co.	160	
Sun Oil Co.	60	
The Texas Company	350	
Texhoma Oil & Refg. Co.	575	
Miscellaneous	7,710	
Total		12,640

Electra

Atlantic Oil Prod. Co.	50	
Empire Gas & Fuel Co.	810	
Gulf Prod. Co.	980	
Humble Oil & Refg. Co.	100	
Magnolia Petroleum Co.	3,280	
Panhandle Refg. Co.	25	
Phillips Petroleum Co.	15	
Prairie Oil & Gas Co.	115	
Rio Bravo Oil Co.	500	
The Texas Company	3,505	
Texhoma Oil & Refg. Co.	1,535	
Miscellaneous	6,360	
Total		17,275

Wilbarger County

Atlantic Oil Prod. Co.	130	
Gulf Prod. Co.	40	
Humble Oil & Refg. Co.	3,985	
Prairie Oil & Gas Co.	85	
Roxana Petroleum Co.	465	
The Texas Company	55	
Texhoma Oil & Refg. Co.	95	
Miscellaneous	9,990	
Total		14,845

Iowa Park

Atlantic Oil Prod. Co.	95	
Gulf Prod. Co.	120	
Humble Oil & Refg. Co.	200	
Magnolia Petroleum Co.	475	
Panhandle Refg. Co.	25	
Roxana Petroleum Co.	10	
The Texas Company	260	
Texhoma Oil & Refg. Co.	185	
Miscellaneous	3,305	
Total		4,675

Archer County

Atlantic Oil Prod. Co.	380	
Cosden Co.	560	
Empire Gas & Fuel Co.	720	
Gulf Prod. Co.	2,770	
Humble Oil & Refg. Co.	540	
Independent Oil & Gas Co.	10	
Magnolia Petroleum Co.	1,550	
Marland Oil Co.	550	
Panhandle Refg. Co.	130	
Phillips Petroleum Co.	720	
Waite Phillips	1,440	
Prairie Oil & Gas Co.	2,480	
Roxana Petroleum Co.	420	
Simms Oil Co.	500	
Sun Oil Co.	245	
The Texas Company	2,726	
Texhoma Oil & Refg. Co.	3,595	
Tidal Oil Co.	60	
Miscellaneous	14,130	
Total		34,520

Stephens County

Arkansas Fuel Oil Co.	30	
Empire Gas & Fuel Co.	30	
Gulf Prod. Co.	1,350	
Humble Oil & Refg. Co.	675	
Magnolia Petroleum Co.	390	
Mid-Kansas Oil & Gas Co.	2,615	
Phillips Petroleum Co.	50	
Prairie Oil & Gas Co.	880	
Republic Prod. Co.	125	
Roxana Petroleum Co.	50	
Simms Oil Co.	50	
Sinclair Oil & Gas Co.	70	
Sun Oil Co.	135	
The Texas Company	1,075	
T. P. Coal & Oil Co.	1,135	
Miscellaneous	5,050	
Total		13,710

Ranger

Gulf Prod. Co.	235	
Humble Oil & Refg. Co.	40	
Magnolia Petroleum Co.	790	
Mid-Kansas Oil & Gas Co.	150	
Panhandle Refg. Co.	115	
Prairie Oil & Gas Co.	625	
Republic Prod. Co.	50	
Sinclair Oil & Gas Co.	330	
The Texas Company	145	
T. P. Coal & Oil Co.	750	
Miscellaneous	2,230	
Total		5,460

Moran

Empire Gas & Fuel Co.	30	
Humble Oil & Refg. Co.	10	
Magnolia Petroleum Co.	75	
Phillips Petroleum Co.	645	
Prairie Oil & Gas Co.	25	
The Texas Company	210	
Texhoma Oil & Refg. Co.	85	
Miscellaneous	1,725	
Total		2,805

Young County

Gulf Prod. Co.	245	
Humble Oil & Refg. Co.	355	
Magnolia Petroleum Co.	200	
Mid-Kansas Oil & Gas Co.	10	
Panhandle Refg. Co.	130	
Prairie Oil & Gas Co.	10	
Roxana Petroleum Co.	135	
Simms Oil Co.	860	
Sinclair Oil & Gas Co.	360	
Sun Oil Co.	65	
The Texas Company	520	
Texhoma Oil & Refg. Co.	340	
Tidal Oil Co.	270	
Miscellaneous	3,940	
Total		7,440

Eastland-Comanche

Empire Gas & Fuel Co.	10	
Humble Oil & Refg. Co.	115	
Magnolia Petroleum Co.	670	
Mid-Kansas Oil & Gas Co.	180	
Phillips Petroleum Co.	45	
Prairie Oil & Gas Co.	115	
Simms Oil Co.	35	
Sinclair Oil & Gas Co.	25	
Skelly Oil Co.	105	
The Texas Company	135	
T. P. Coal & Oil Co.	75	
Miscellaneous	1,325	
Total		2,835

Panhandle

Hutchinson County	7,305	
Carson County	1,810	
Gray County	470	
Wheeler County	120	
Total		9,705

Miscellaneous Pools

Clay County	455	
Montague County	2,160	
Jack County	75	
Throckmorton County	165	
Baylor County	240	
Palo Pinto County	415	
Brown County	6,305	
Coleman County	660	
Callahan County	3,810	
Mitchell County	3,230	
Reagan County	30,915	
Scurry County	45	
Crockett County	285	
Upton County	105	
Total		48,865
Total this week	174,775	
Total last week	171,455	
Difference		3,320

Wichita County Completions

C. W. M. & T. Oil Co.'s No. 10 Horton, dry at 274 feet; No. 11 Horton, 5 bbls. at 278 feet; Jeffers and others' No. 1 Harrell, dry at 1,910 feet; Empire Gas & Fuel Co.'s No. 12-A Waggoner, dry at 1,954 feet. Moore and others' No. 7 Burnett, 25 bbls. at 1,595 feet; Petroleum Producers Co.'s No. 2 Douglas, 20 bbls. at 1,631 feet. Ridgeway and others' No. 5 Powell, 25 bbls. at 1,867 feet. Staley and others' No. 3 Hines, 20 bbls. at 897 feet. Texhoma Oil & Refining Co.'s No. 1 Douglas, dry at 2,004 feet. Underwood Drilling Co.'s No. 1 Allena and Kemp, dry at 1,902 feet.

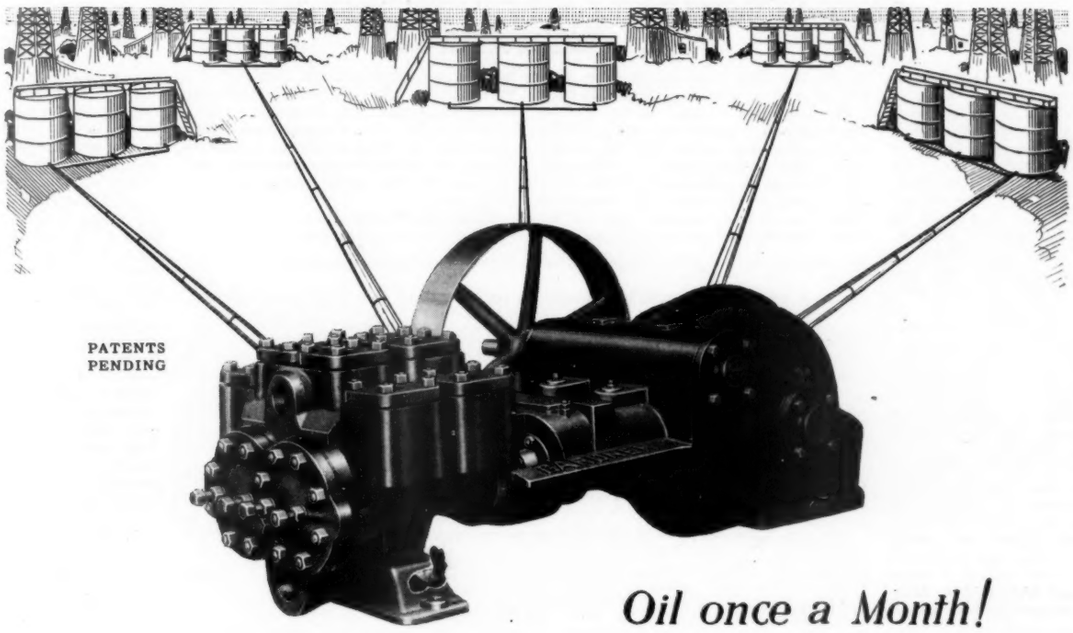
Wilbarger County

Humble Oil & Refining Co.'s No. 5-G Waggoner, 60 bbls. at 2,411 feet. Milham Corp.'s No. 2-A Waggoner, 25 bbls. at 2,390 feet. Phillips Petroleum Co.'s No. 3-G Waggoner, 150 bbls. at 1,914 feet; No. 1-HH Waggoner, 100 bbls. at 2,541 feet; No. 3-NN Waggoner, 130 bbls. at 1,908 feet. Prairie Oil & Gas Co.'s No. 2-A Waggoner, 100 bbls. at 2,350 feet. Staley and others' No. 13-A Bond, 20 bbls. at 2,002 feet. Winnipeg Oil Co.'s No. 1 Lloyd, dry at 2,780 feet.

Archer County

American Refining Co.'s No. 1 Jackson, dry at 2,210 feet. Barnsdall Oil Corp.'s No. 1 Albright, dry at 1,855 feet; No. 15-B T. B. Wilson, 80 bbls. at 1,703 feet. Burns and others' No. 6 Brown, dry at 1,770 feet. Freeman-Hampton Oil Co.'s No. 2-A Ferguson, dry at 1,762 feet. Magnolia Petroleum Co.'s No. 6-A Rutty, 5 bbls. at 894 feet. Panhandle Refining Co.'s No. 1 White, 5 bbls. at 1,779 feet. Phillips and others' No. 1 Morwitz, dry at 1,850 feet. Staley and others' No. 1-H Kemp and Kempner, 40 bbls. at 1,582 feet; No. 2-H Kemp and Kempner, 60 bbls. at 1,585 feet; No. 5-A Parrish, 65 bbls. at 1,576 feet; No. 8-B Parrish, 40 bbls. at 1,585 feet. The Texas Company's No. 33-B Wilson, 15 bbls. at 1,517 feet. Woods and others' No. 1-A Wilson, 10 bbls. at 1,600 feet. Atlantic Oil Producing Co.'s No. 2 Oldham, 30 bbls. at 1,057 feet; No. 3 Rachuig, 95 bbls. at 1,174 feet. Consolidated Oil Co.'s No. 1 Reams, dry at 1,613 feet; No. 2

(Continued on Page 157)



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GARDNER

May Limit Inglewood Deep Drilling

Possibility of Third Zone Below Rindge Sand Reached By the Associated Co.'s No. 2 Vickers. Now Discussed

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Apr. 10.—Some doubt continues as to the exact condition in the new deep zone at Inglewood, but it apparently underlies the upper sand with very little shale body between. The menace of the new sand is thoroughly realized, and it is hoped an understanding may be effected by which deep sand drilling may be postponed if the Associated company shuts in its No. 2 Vickers until needed.

The action of the Associated is of particular importance because of the location of No. 2 Vickers and it was generally believed that work would be started on two offsets unless operators come to some understanding in the meantime.

This might result in further offsetting and, if this second zone is as productive as the limited amount of information available indicates, the Inglewood Field might be producing 75,000 bbls. daily within six months. This estimate is based on a production of 50,000 bbls. daily from the second zone and 25,000 bbls. daily from the present or upper horizon and is by no means the maximum output. Operators could, it is believed, very easily boost the total field production to well over 100,000 bbls. daily if they decided to push development work to the limit. This is hardly possible, however, in view of the fact that state stocks have been and are still accumulating at a high rate.

Much depends on the amount of drilling done and whether the work consists of deepening jobs or the starting of new holes. Some are inclined to believe future development will consist of the starting of new holes rather than deepening present producers, because most of the wells completed in the upper zone were finished with 6¼-inch oil strings. The State Mining Bureau will undoubtedly require a cement job between the two zones and this would necessitate the use of a 3-inch oil string in the lower horizon. This is, of course, not an impossiblity, but it would not give individual wells a maximum output.

Those operators who are of the opinion that future development of the deep zone will be through the starting of new wells discount the objection which has arisen because of the proximity of present producers in the upper zone. There is no reason why the present producers should be disturbed, as they are yielding a nice return on the investment and will, because of the large penetration afforded in the upper horizon, undoubtedly be long lived. The logical thing to do, it would seem, would be to interspace the present producers with new wells and start work with a 12-inch hole. This would permit the completion in the second horizon with an 8¼-inch and provide for the future in case of the development of another sand. I have not yet heard definitely of the policies of the various companies operating in this field to take care of future conditions, but I humbly recommend for their consideration the drilling of new wells interspaced between present producers with due allowance made for the possibility of picking up another and maybe more productive horizon.

Third Zone Possible

The bottom of the second zone, which will probably be termed the Rindge sand, will be around 3,150 feet and it is possible and highly probable that a third zone may be developed above the 5,000-foot level, in which event it may be advisable to carry as large a hole as is practicable. Special attention is directed to the comparatively shallow depth of the Rindge sand and, in view of past per-

(Continued on Page 92)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Yr. to Date	Same Time Last Year
Crude oil	388,895	55,556	155,851	22,264	3,119,687	4,709,646
Fuel and gas oil	163,584	23,369	.....	.....	2,485,640	146,803
Gasoline	151,805	21,686	226,636	32,377	1,733,597	1,119,688
Tops	.....	.....	.....	.....	74,619	80,578
Coastwise—						
Crude oil	239,598	34,228	622,202	88,886	5,953,478	7,548,365
Fuel and gas oil	220,457	31,494	137,429	19,633	2,234,738	3,552,881
Gasoline	209,615	29,945	184,029	26,290	1,957,260	1,249,552
Kerosene	3,611	516	5,740	820	89,907	58,090
Tops	.....	.....	.....	.....	200,026	62,970
Exports—						
Crude oil	.....	.....	42,140	6,020	817,550	526,455
Fuel and gas oil	418,636	59,805	151,700	21,671	4,267,833	3,397,131
Gasoline	164,097	23,442	83,164	11,881	924,966	1,002,099
Tops	.....	.....	.....	.....	.....	59,932
Kerosene	9,128	1,304	57,668	8,238	487,241	313,530

TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Crude oil	.....	.....	.....	.....	.....	.....
Fuel and gas oil	.....	.....	.....	.....	195,023	.....
Gasoline	.....	.....	.....	.....	341,606	332,906
Tops	73,698	10,528	.....	.....	73,698	387,629
Kerosene	.....	.....	.....	.....	.....	.....
Lubricants	72,063	10,295	.....	.....	154,088	81,939
Coastwise—						
Fuel and gas oil	62,074	8,868	61,823	8,832	976,723	831,252
Gasoline	158,588	22,655	115,126	16,447	1,048,615	696,976
Kerosene	22,328	3,190	29,180	4,169	126,363	76,735
Exports—						
Fuel and gas oil	71,909	10,273	.....	.....	816,213	415,399
Gasoline	30,153	4,307	.....	.....	364,475	147,410
Kerosene	67,811	9,687	.....	.....	424,959	217,765
Lubricants	.....	.....	.....	.....	.....	187,111

AIRPLANE VIEW OF MIDWAY, CALIF. FIELD. TAFT AT RIGHT

(c) Spence Airplane Photo, Los Angeles

Utah Producer Results in New Activity

Additional Development Work Starting Near Moab Well. Considerable New Storage Erected in Sunburst Field

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., Apr. 10.—The Cane Creek well of the Midwest Refining Co. and the Utah Southern Oil Co. remains shut in while new equipment is being shipped to the location. It is now believed this well has opened a new productive territory which will have a depth around 2,000 feet and the oil will be found in the Pennsylvania formation below the Cretaceous. Possibilities of more productive sands below the present strike are being discussed.

The second well in the Cane Creek area, located on the Shafer Dome and being drilled by the Midwest Refining Co. for its own account, is at 150 feet and is driving the 15-inch pipe after a failure to get a shutoff by cementing. This location is on Section 17-27-20.

The Utah Southern Oil Co. secured the permits on the Cane Creek and other four structures in that vicinity last year, then made a contract with the Midwest Refining Co. to drill a test. After the well found oil, the Midwest Refining Co. and the Utah Southern Oil Co. reached an agreement by which each firm took part of the leased territory and will drill it separately.

The Texas Company secured a lease on some State owned land that covered the bed of the Grand River and this lease is now considered a very valuable tract though before the discovery well was started, the matter was not considered as worth bothering with by the oil men there. By securing this lease on State owned land, The Texas Company is able to locate a well within a stone's throw of the discovery well, but the company will have to build a pier or crib to set the derrick on. Work on this construction is to be started at once because the State lease compels The Texas Company to have a well drilling by June 1. This tract of The Texas Company also runs down the stream so as to cut the other structures in the Cane Creek area.

Other Areas Interesting

Other structures in eastern Utah are receiving considerable attention due to the strike at Cane Creek. The Big Six Dome, 3 miles west of Moab had a wildcat started on it about three years ago and the hole was drilled to about 2,900 feet. It has been idle for some time past, but the owners are arranging to start work again.

The Marland Oil Co. has an area on what has been named the Marland Dome, in Grand County and a well drilling at 2,450 feet, underreaming to 2,600 feet. This location is on Section 34-25-21 and the Pennsylvania formation containing the sand that was found at Cane Creek is considered to lie about 400 feet deeper than the present bottom of the hole.

The Utah Oil Development Co. is also starting a test on the Moab anticline, upon which the Big Six well is located. This test will be located on Section 8-26-22 just outside the town of Moab and the material for the well is now going into the location.

The Embar Oil Co. is putting down a shallow test with a machine on Section 22-25-21 on the Moab anticline near Moab, expecting to find a production around 900 feet.

The Deseret Petroleum Co. has secured a block of leases on the Gibson Dome, Grand County, and is moving in material for a deep test on Section 3-30-20.

Western States Development Co. has its test on the Cresent Dome, Section 27-21-19, at 1,200 feet and has found some shale showings.

The Home Oil Co., on Section 4-19-25, Grand County, on the Bitter Creek structure, has started drilling in the big hole with expectations of going to the Pennsylvanian formation at about 3,000 feet. An old well drilled several years ago near this well is furnishing enough gas to run the drilling well.

The Elk Ridge Oil Co. has a large block of leases about 40 miles south of Moab on what is called the Elk Ridge Dome and is preparing to start drilling operations there in the near future. This company was recently organized in Denver. The structure is in a new territory and difficult of access.

The Sunburst Field in Montana is now supplied with sufficient tankage so that there is no danger of the congestion experienced last winter, happening again. The field now has available about 1,000,000 bbls. of storage and with the tank building now in progress, the field may have about 1,500,000 bbls. of storage by the last of May.

The Illinois Pipe Line Co. has the largest storage with 644,500 bbls. of tankage, the Homestake Exploration Co. has 160,000 bbls. of its own and the International Refining Co. has 55,000 bbls. The rest of the field storage scattered over the field will bring the total up to the figures given.

During the past winter, the drilling of wells in Sunburst was not stopped to any great extent by cold weather as in previous winters. This enabled the operators to bring in many more producers with the result that the pipe lines could not handle the crude. Proration was established by the Illinois Pipe Line Co. in December and lifted about the first of March, in the meantime the company built additional tanks and there is small chance that the field will ever be curtailed again. Because of the proration the Homestake Exploration Co. also built storage to take care of its producton.

The most important well of the past week in Sunburst was the completion by the Tri State Oil Co. on Section 30-35-1 which found production in the Sunburst sand. The Sunburst or Kootenai sand was the sand that was first found to contain oil when the field was discovered and the crude is a much better grade than was later found in the Ellis sand below. However, the Kootenai sand production was found to be limited to a rather small area in the central part of the field while the Ellis sand has yet to be determined in its productive area. The Tri State well is located on the east side of the field and found the Sunburst sand at 1,220 feet. The well started to flow at once and no further drilling has been done. This well is also looked upon as a sure producer from the Ellis sand which should come in about 1,500 feet.

Good Well a Surprise

The Caine Syndicate on Section 32-35-1, brought in a good producer, estimated at 100 bbls. the past week in the Ellis sand. This location is in an area that has had only small pumpers of from 10 to 25 bbls., but when the Caine well drilled in the well started to flow and spouted oil over the ground before it could be brought under control.

The California Syndicate found a duster on Section 6-34-2, drilling through the Ellis sand to a total depth of 1,530 feet. The Dakota Montana Oil Co., on Section 30-35-1, drilled to 1,490 feet and has a small pumper after two shots. The Dupont interests on Section 31-35-3, have a good producer in the Ellis sand at 1,760 feet estimated at 100 bbls. and this well also found a stray sand at 1,540 feet that showed oil.

The Ohio Oil Co. drilled in a dry hole on Section 12-33-3, finding the Ellis sand at 1,687 feet and drilling on into the Madison lime to a total depth of 1,700 feet. The Adams Syndicate on Section 1-34-2, found another duster, drilling to 1,500 feet. The Sunburst Oil & Gas Co. found a dry hole on Section 32-34-2, drilling to 1,600 feet. The Rice Oil Co. has a producer estimated at 25 bbls. in the Ellis sand on Section 30-35-1 and will set small casing before drilling farther into the sand. Depth of hole 1,450 feet.

The Regal Consolidated Oil Co. sold its leases on Sections 5 and 8 of T. 34-2, to Dr. B. A. S. Arronow and Arbe Beardslee, both men interested in Montana oil. This lease has seven wells and a daily production of 100 bbls. The price was not made public, but is considered to be $115,000. The new owners expect to lay a pipe line to the railroad and ship the crude to refineries in Montana in which they are interested.

The prediction is made that within the next 10 years, Montana railroads will be using all the fuel oil now produced in the smaller refineries of that State, for driving trains on local branches. The use of the internal combustion engine, either using gasoline or the heavier oils as in the Diesel type, is spreading rapidly. The engines are direct connected to electric generators which furnish the power for the train and the new type has been found very economical.

Salt Creek Completions

In Natrona County, Wyoming, the Continental Oil Co., on the Wallace Creek structure, south of Waltman, Section 15-34-87, reached the Teapot sand at 3,800 feet and found black sulphur water. This well was drilled through the Tertiary overlay to test the upper Cretaceous sands.

The Continental Oil Co. also finished a well in the Salt Creek Field, Section 2-39-78, that was drilled as a deep test, and went to 4,000 feet. This well has been plugged back and will make 30 bbls. from the first Wall Creek sand at 1,730 feet.

The Midwest Refining Co. completed five new wells in the Salt Creek Field. The Wyoming Oil Fields Co. has a small producer on Section 23-40-79, at 1,434 feet and the same company has a 20-bbl. producer on Section 26-40-79, in the Second Wall Creek sand, at 2,633 feet.

The Wyoming Associated Oil Co. found a 75-bbl. well on Section 26-40-79 in the Second Wall Creek sand at 2,293 feet and one on Section 14-40-79 was completed at 1,710 feet and will make about 15 bbls. The same company also has a producer of 100 bbls. on Section 35-40-79 in the second Wall Creek sand at 2,623 feet.

The Utah Oil & Refining Co. has abandoned the wildcat on Section 23-44-95 in the Big Horn Basin, on the Gebo Dome. The hole was drilled to 2,903 feet and failed to find anything that looked like commercial production.

One of the old wells drilled by the
(Continued on Page 147)

INCREASED ACTIVITY IN CANADA; TURNER VALLEY OPERATIONS LEADING

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ont., Apr. 10. — In the Irma-Wainwright Field, east of Edmonton, Edmonton Wainwright Oil's No. 1, LSD 4, Section 29-45-6w4, offsetting the British Petroleum's No. 3-B, has reached the top of the oil sands with the core drill, the coal seam or marker definitely indicating this. The test is around 2,200 feet. the structure being approximately a foot higher than in British Petroleum's No. 3-B, about 600 feet across the road allowance. Casing is being set and cemented preparatory to drilling into the oil sand. The rotary outfit in charge of Head Driller Stevens carried the drill to the oil sand in approximately one month's time. West of Wainwright, the Interior Oil Co., Section 36-44-7w4, is getting ready to resume drilling on the unfinished test of the Wainwright Oil Producers' Syndicate, shut down at approximately 1,120 feet.

An important wildcat test is expected to spud in about May 1 on the Lesser Slave Lake area. A company backed by British capital, supposed to represent the Rhodonda interests, last year secured some 10,000 acres, constructed a camp and commenced rigging up, but no work was done through the winter. This is the first test for oil ever undertaken in the Lesser Slave Lake area.

In the Medicine Hat Field, the Roth Syndicate's No. 1 deep test at Crescent Heights is reported down 3,600 feet and shut down owing to trouble with the cable. The test is reported to be about 735 feet in the limestone. It is reported the Roth Syndicate is bringing in a rotary outfit for a second test just east of Redcliffe.

In the boundary field, east of Coutts, Imperial Oil, Ltd.'s Erickson Coulee, LSD 13, Section 8-1-11w4, is reported ready to spud in, but the start has been delayed owing to stormy weather. Near Coutts, Urban Oils, Ltd.'s No. 1 Moodie, Section 4-1-15w4, which has been shut down at 2,740 feet waiting for casing, is being cleaned out and casing set, and will resume drilling within a week.

In the southern foothills, Imperial Oil, Ltd., Rice Creek, Section 4-14-2w5, is still shut down at 4,025 feet, owing to unfavorable weather. In the Jumping Pound district west of Calgary, Imperial Oil, Ltd.'s No. 1 Bow River, LSD 15, Section 12-25-5w5, has finished setting 15½-inch casing at 927 feet, and is resuming drilling. In the northern foothills west of Edmonton, Imperial Oil, Ltd.'s No. 2 Coalspur, LSD 110, Section 3-49-31w5, is reported at 3,970 feet and working on casing.

Turner Valley

In the Turner Valley Field, southwest of Calgary, Royalite Oil Co.'s No. 5, LSD 13, Section 7-20-2w5, is fishing for a lost drill collar at 3,000 feet. Royalite's No. 6, LSD 16, Section 31-19-2w5, is shut down at 2,854 feet.

Vulcan Oils, Ltd., No. 1, LSD 11, Section 13-20-3w5, is reported drilling at 4,360 feet, with an 8-inch bit working in open hole and the 8-inch casing hanging at about 4,000 feet. The drill is in limestone, and there is no indication of caving. Around 4,250 feet a small show of gas was encountered. Some oil is baled,

(Continued on Page 135)

Michigan Waits Test North of Saginaw

Most Important Since Bringing in of the Discovery Well and May Extend the Field in Direction of Bay City

By Whit

SAGINAW, Mich., Apr. 12.—A trip to Michigan's newest El Dorado elicits the fact that Saginaw County has an honest-to-goodness oil field all by itself and which bids fair to cover quite a scope of territory, which is something new for the Wolverine State. For years trials have been made over the State from north to south and east to west, with little result, although dry holes are seldom found, as most wells have a showing of either oil or gas but not in commercial quantities. So it was up to Saginaw capitalists to start the ball rolling and develop the State's only commercial producing field of any real value.

Six wells have been drilled in the field and there are six producers, which is going some for a purely wildcat proposition. The people of Saginaw are not going wild over the recent finds as they had some experience a number of years ago and quite an excitement at that time, but the bubble burst as the wells would not hold up. This does not appear to be the case in the newer development at the northern edge of the city of Saginaw. Four of the wells were drilled by the Saginaw Prospecting Co., one by the Bliss Petroleum Co., both local concerns, and one by the Sun Oil Co., one of the oldest producing companies in the country.

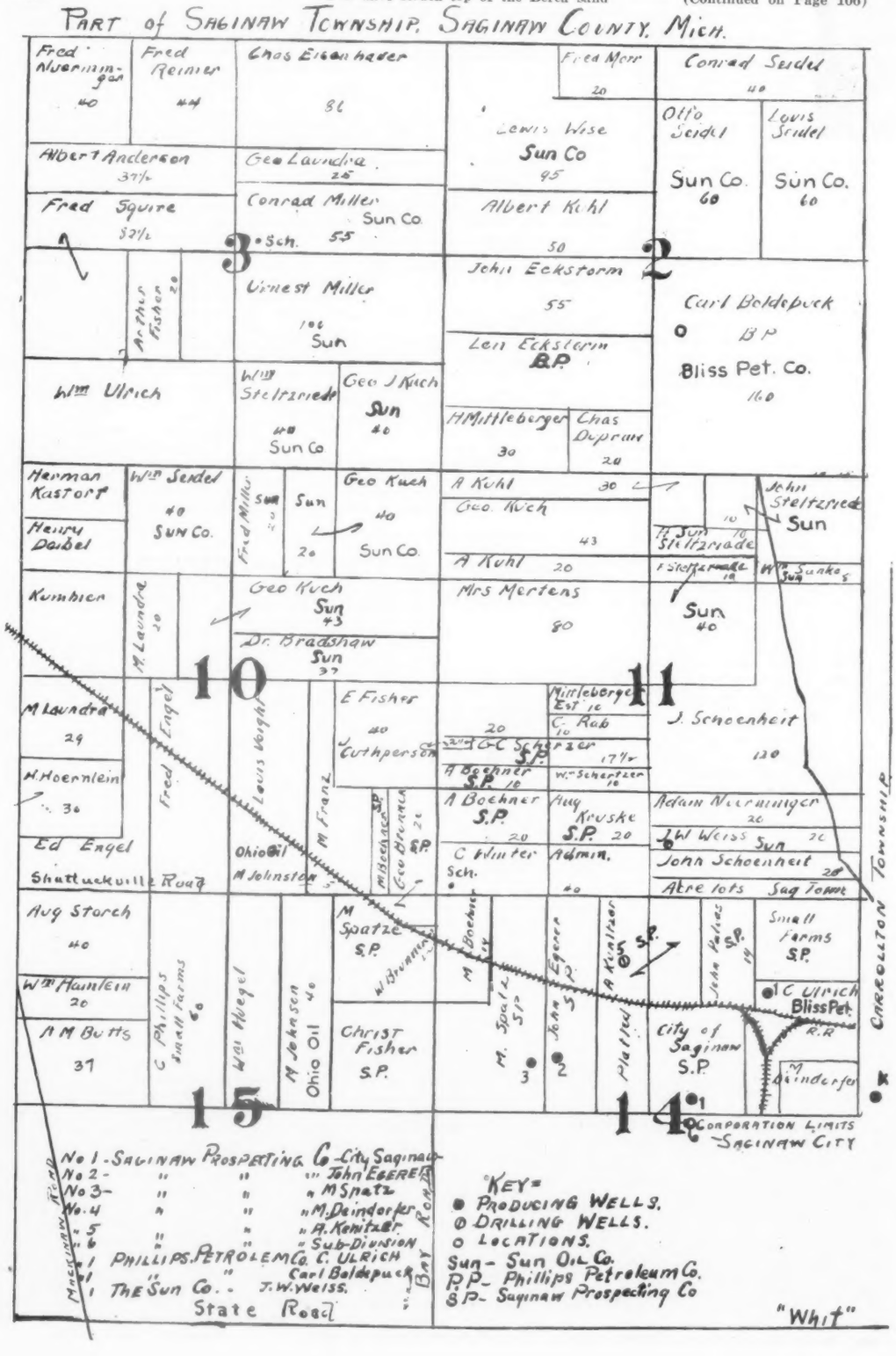
The most important of the present wells under way is that of the Bliss Petroleum Co., about 40 rods from the northwest corner along the west line of the Carl Boldebuck 160 acres, in the southeast quarter of Section 2, Saginaw Township, Saginaw County, and fully 2 miles almost due north from the discovery well of the new field. Should this well prove a commercial producer it will make the field cover quite an extensive area of territory.

The discovery well drilled by the Saginaw Prospecting Co., according to map location, is a little west of the center of the south line of a tract owned by the city of Saginaw, in the southwest quarter of the northeast quarter of Section 14, Saginaw Township, and just across the corporate limits of the city to the north. No. 2 well of this company is located along the west line and about 40 rods from the south line of the John Edgerer farm, being the west half of the east half of the northwest quarter of Section 14 and about one-quarter of a mile west and a little north of the discovery well. No. 3, owned by the same company, is almost a direct offset to the No. 2 well and along the east line of the M. Spatz farm, being the east half of the west half of the northwest quarter and the southwest quarter of the northwest quarter of Section 14. No. 4 well of the same company is in the southwest corner of the M. Daindorfer farm and in the southwest corner of Carrollton Township, just north of the corporate limits of Saginaw and approximately a quarter of a mile east of the discovery well, making the width of the field east and west along the corporation line of Saginaw close to three-quarters of a mile. No. 5 for the Saginaw Prospecting Co. is now drilling near the center of the A. Kunitzer, about a quarter of a mile northwest of the discovery well and in the northeast quarter of the northwest quarter of Section 14, Saginaw Township. No. 6 location is almost a direct offset to the south of the discovery well in the corporation limits of Saginaw, on a subdivision in the southeast quarter of Section 14. These four producers are doing about 50 bbls. daily.

The Bliss Petroleum Syndicate's well is in the northwest corner of the Casper W. Ulrick in the south portion of the northeast quarter of Section 14, just north of the railroad and a quarter of a mile northeast of the discovery well and about the same distance northwest of the Saginaw Prospecting Co.'s No. 4 well on the Daindorfer, in Carrollton Township. This well for seven days, up to Friday last week, averaged 26 bbls. daily.

The Sun Oil Co.'s No. 1 is in the southwest corner of the J. W. Weiss 20 acres, being a strip one-half mile long and a little over half a mile north of the discovery well. This well is reported to have struck top of the Berea sand at 1,814 feet and drilled 13 feet in to a total depth of 1,827 feet, indicating that the Berea formation rises to the north. This well, according to those that were present when it was drilled in, made

(Continued on Page 106)



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THE NATIONAL SUPPLY COMPANY

Hopewell Pool Leading in Kentucky

One Well Makes 300 Barrels Without Being Pumped Off and Another is Estimated Good for 120 Barrels

By Vern T. Whitney
Staff Correspondent, Kentucky-Tennessee

GLASGOW, Ky., Apr. 12.—The Hopewell oil pool on Crocus Creek in southern Adair and northern Cumberland Counties, Kentucky, came to the fore the past week with two new completions. The best is Sam K. Baird & Hickman's Grider test, 1,000 feet south of the discovery well on the Brockman farm, which made 300 bbls. the first 24 hours without being pumped off. It was finished in the first Sunnybrook sand at 291 feet. Six and a quarter-inch casing was set at 137 feet. The other is Wood-Haiselt-McLennon & Calhoun's G. W. Brockman, good for 120 bbls. flush, in the first Sunnybrook sand. This well after filling three 250-bbl. tanks was shut in on account of lack of storage. The recent completion on the J. H. Morgan place, owned by Sam K. Baird, a quarter of a mile north of the Brockman, was put on the pump a few days ago and gauged 40 bbls. from the Upper Sunnybrook.

Activity in the new Adair and Cumberland Field is going on at a rapid pace, since the completion of the above wells and a number of companies have entered this area and will drill several further tests.

R. M. Belnap, representing the Pure Oil Co., is reported to have closed a contract with Mr. Thrasher of Burkesville, Ky., which calls for the drilling of a well in the Hopewell Pool. J. F. Bolinger of Shelburn, Ind., has taken over a block of acreage in this pool and will start developing his acreage at once. The first trial will be made on the Grandville Morgan lease, one-half mile north of Hopewell Church. George Phillipi and F. Natal of New Orleans have arranged to drill a test on the Paters farm. Another location has been made a quarter of a mile northeast of the Morgan well, on the Morgan farm. A mile to the south of the Brockman a test is going downward on the Elliott place, and a short distance north of Hopewell Church, at the mouth of Sandlick Creek. California operators are making preparations to drill on the Bledsoe farm.

Outside of the two big strikes in Cumberland County, the Owensboro Field comes forward with another century producer on the Guenther-Gant lease, by the Chicago Petroleum Syndicate, in the Swope Pool.

Word comes that the Paragon Development Co. is thinking seriously of extending its pipe line that runs from the Glasgow Field in Barren County to Kettle Creek Field in Cumberland and Monroe Counties, southward to Celina, in Clay County, Tennessee, where some good production has developed. If this line is to be built work will start as soon as the weather permits material to be hauled along the right of way. This extension will pass through some good looking territory that will be developed as soon as a market is made.

Week's Work

During the week a total of 19 completions were reported completed in the Kentucky Field, 15 being oil wells with a flush of 517 bbls., and 4 dry holes. This is a decrease from the previous week's figures of 3 completed wells, an increase of one in oil wells, 436 bbls. more production, 3 less dry holes and 1 less gas well. These wells were distributed among the various counties as follows:

County—	Comp.	Prod. Wells	Prd.	Dry	Gas
Barren	6	4	26	2	0
Owensboro	4	4	134	0	0
Warren	4	2	5	2	0
Cumberland-Monroe	2	2	320	0	0
Lawrence-Johnson	2	2	30	0	0
Morgan	1	1	2	0	0
Total	19	15	517	4	0
Last week	22	14	81	7	1
Difference	3	1	436	3	1

Western Division

Conditions are slightly better for the moving of material in the oil fields of the western division of Kentucky, but it will need several days of sunshine to bring about the moving of materials to new locations, hence work has been lagging, even drilling wells being shut down for weeks. Drilling on these wells has been started again. Very little test work was done during the past year and 1926 is looked upon as a probable banner season for this kind of work, but they will have to step fast and get the ball rolling. Deeper drilling will eventually be done in the western half of the state. The Cambrian formation, which is one of the lowest formations known geologically, should be the spot to reach. Oil exists in the Cambrian for it has already been found in two different deep wells east of the Mississippi River, although few are aware of these discoveries. Wells reaching this formation cost a snug fortune. It might mean the drilling of a 5,000-foot hole. Oklahoma, Arkansas and other fields of the west have gone deeper to find oil and have found new sands and there is no reason why Kentucky should not have the same chance to get production from a greater depth. The Cambrian formation can be found in Indiana at around 3,250 feet and should be struck at a lesser depth in the old areas of Wayne and Cumberland Counties, Kentucky, while in the Reelfoot Lake area to the southwest it would require a greater depth of drilling to reach, and in the Big Sandy Valley in the eastern part of the state it would be found much deeper than in the extreme western portion, while in almost the center of the state it should be found much higher. The Cambrian lies close to 2,000 feet below the bottom of the Trenton and top of the St. Peter sand. Oil has also been found in the St. Peter sand.

Barren County

No new gushers have been reported from the latest pool to be opened in the Glasgow Field of Barren County. Not far removed from the discovery well on the Jones lease in the Lecta Pool, 3 miles east of Glasgow, the Esslinger Oil Co., which drilled the discovery well, drilled its No. 1 on the Norton tract and only got an 8-bbl. pumper at 70 feet under the black shale. Several other wells in the pool and close by are nearing the depth to which a pay should be found. The Esslinger company's Morton well failed to find the rich pay in the black shale. This company's No. 3 on the C. B. Jones tract, on which two century producers were uncovered recently, is ready to drill in but awaiting the pipe line extension to the pool, on account of the lack of tankage. The Paragon Development is extending its line to the pool. Norris Brothers on the Williamson, Gillespie & Wiggins on the Spencer, Ziegler Brothers and others are ready to drill in when the pipe line reaches the field.

T. L. Gorby and others drilled in two dusters in the Gorby Pool, No. 3 on the Walter Beals tract and the other on the Ellis tract. In this pool the Wood Oil Co. is due in with a test on the Sink Smith tract. Ziegler Brothers are around 350 feet at No. 1 Carver tract. Sampson & Bowers are under the black shale at No. 1 on the Ralston lease. Jacob Best, trustee, has not drilled in No. 5 Sanders yet. Lewis Emery, Jr., Sons Co. is drilling a deep test in No. 24 on the Depp-Greer lease. The Hiland Oil & Gas Co. is below the black shale in No. 15 Cassaday tract. J. W. Porter's No. 15 McGlothlin is drilling.

In the Hall-Baker Pool the Consolidated Oil Co.'s No. 16 on the H. W. Duff lease, 3 miles north of Glasgow, is reported at 12 bbls. flush. This well is 1,800 feet from any producing wells and tests out quite a strip of territory for future development on this lease. No. 17 same lease is under way. Harrington and Norris Brothers are nearing pay sand at No. 3 White-Smith lease.

In the Emery-Moore Pool, the Houchins Leasehold Co.'s No. 11 Ziegler is reported at 4 bbls., with No. 12 nearing sand. T. L. Gorby and others' No. 3 W. E. Steffey has been completed and given a shot, showing for only a light well. Fred C. Moore is nearing pay sand with No. 13 on his own land.

Owensboro District

Work is picking up in the Owensboro district of Hancock, Ohio, Daviess and Henderson Counties. The Swope Pool, in Ohio County, stands in the lead so far as big producers are concerned. Four good completions were reported during the week. The Chicago Petroleum Syndicates' No. 3 on the Guenther-Gant lease in the Swope Pool, 400 feet west of No. 2 on the same 270-acre farm and an offset to No. 11 on the Swope lease of the Pennsylvania-Indiana Oil Syndicate, is reported showing better than 100 bbls. This well found its oil in the Barlow sand and is experiencing some difficulties in getting a pump to working due to the heavy gas pressure in the well, but within a few days it is expected this difficulty will be overcome. Manager Dolphin fully believes that initial production will reach 100 bbls. daily and finally yield a steady production around 15 to 25 bbls. Another well will shortly be started on this farm.

The Pennsylvania-Indiana Oil Syndicate's No. 2 Laura Mercer lease and 400 feet west of No. 1, has been completed in the Barlow sand with a production of 15 bbls. No. 3 has been started, 400 feet north of No. 2.

In the Midkiff Pool, about 5 miles south of the Swope Pool, the White Plains Oil & Gas Co. (Snowden interests) has brought in No. 2 on the J. J. Midkiff and a northeast offset to the same company's No. 1 on the Orella Ralph lease. This well is good for 15 bbls. in the Barlow sand. Same company's No. 4 on the H. S. McBrayer 90 acres is reported good for 4 bbls.

In the King Pool the Greasy Creek Oil Co. is starting No. 8 on the Davie King lease. C. E. Daugherty and others are due to complete No. 9 on the Lucinda Crowe 153 acres. This well is 400 feet east of No. 6 on the same farm. Several other wells are due for completions in a few days in the Owensboro district.

W. F. Stephenson and others are reported to have struck a fair showing of oil in the Jackson sand on the Joe Bob Ellis tract, adjoining the Guenther-Gant lease, in the Swope Pool. This sand has rarely been found in this part of the district. The well is being drilled deeper to the Barlow sand where a better showing is expected.

The Lew J. Emery, Jr., Sons Co. is starting a wildcat on the Cicero Whittinghill lease, 5 miles southeast of Fordsville, near Trisler, in the northeastern part of Ohio County. The Wah-Shah-She Oil Co. is nearing pay sand at No. 2 on the R.

(Continued on Page 128)

IMPASSABLE ROADS REDUCE WORK IN THE FIELDS OF CENTRAL WEST

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Apr. 12.—A general survey of the portion of the Central West Field north of the Ohio River does not show the usual activity owing to the high waters and deep mud brought about by snow and rain. Between Toledo, Ohio, and Saginaw, Mich., the country looked more like a large lake than farm lands. This condition does not apply alone to the Lima Field and up in Michigan, but in central Ohio, Indiana and Illinois as well and for that reason alone work is lagging in all areas.

Not in a number of years has there been so much leasing in the older fields as since the opening of the new year. Scouts are watching closely wells in advance of production that have been delayed by conditions. Almost the entire area between the eastern terminus of the Lima Field and the recent extension in that direction, in the extreme eastern portion of Ottawa County, on Catawba Island, which will add at least 20 miles to the producing area, has been practically all leased up, which means all lands between the Elmore Field in Harris Township and the Limestone Field in Benton Township, to the new extension on the island.

There is still talk of deeper drilling over the Central West Field especially in what proved the heaviest producing sections in the latter eighties and early nineties. An effort will be made to get together operators in the Trenton Rock fields of Ohio and Indiana as all will benefit from testing out the stratas below the Trenton where oil is known to exist. The wells in the Trenton get their product from a lower formation and to find out what formation it is, will be the point to be gained by the deep drilling. The cost will be heavy but when all contribute and become owners of such tests, the cost is only slight and is well worth the chances to be taken.

Lima Field

Only two completions are reported in the old Lima Field of northwestern Ohio for the week. In the Dowling Field of Webster Township, Wood County, between Bowling Green and Toledo, John Geldin and others' test in the northwest corner of the Mike Roller farm, mapped as the H. B. Shoemaker, in the southwest quarter of Section 22, pumped 20 bbls., with top of Trenton at 1,221 feet and drilled 21 feet in. This is an exceptionally good well for that section of the field. In Perrysburg Township, same county, 4 miles south and 2 miles east of Perrysburg, the Oko Oil & Gas Co., of Lima, with Mack P. Colt at its head, contemplates the drilling of a large number of wells on recent acreage purchased. This company has locations staked for No. 4 on the George Deverna farm; No. 3 on the Louisa Deverna farm; No. 8 on the A. H. Lindemier and No. 2 on the Grace Dauer farm, Section 29. This territory is about 2 miles southeast from the old wells drilled years ago on the

(Continued on Page 126)

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NATURE in her various moods attacks the Oil Country Belt with sun and wind and rain and heat and cold.

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Ritchie County, W. Va., Has 50-Bbl. Well

Doddridge County and Putnam County 25 Barrels Each. Southeastern Ohio Lightest Showing in Several Months

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Apr. 12. — The week of development work proved more disappointing than at any time in a great many months. No large producers were completed in any district, the best being a 50 and 25-bbl. producer in West Virginia. Taking the week as a whole, the volume of new production was very small. For the first time in a number of months the deep sand territory in southeastern Ohio failed to complete anything better than light pumpers. Owing to the very great cost to drill in the deep territory, a small pumper is scarcely a paying investment.

All of the work under way and starting is of the routine kind, located in the old defined districts. It is very seldom that a large well is discovered in territory of this kind. Operators outside of the gas areas are not inclined to start much new work so long as the market is low. At this time the roads are in a very bad condition, making it almost impossible to get supplies to the fields.

West Virginia

Rawe Brothers' No. 3 on the John Adams farm, in Grant district, Ritchie County, is estimated to be good for 50 bbls. a day in the Big Injun sand. In McKim district, Pleasants County, George Jones and others drilled their test on the Albert Neely farm through the Cow Run sand, found nothing and have abandoned the hole.

In Freeman's Creek district, Lewis County, F. G. Bish & Co. have now drilled their test on the N. G. Monneypenny farm through the Big Injun sand and dry. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has a 3-bbl. pumper in the Gordon sand at a test on the Thomas and Sarah Blake farm. In Clay district, Wetzel County, the same company's No. 3 on the Thomas Littel farm is a 5-bbl. pumper in the same formation.

In Lee district, Calhoun County, the Hope Construction & Refining Co. has a gasser in the Big Injun sand on the Offutt farm. In Sheridan district, Martin Crowley has drilled old No. 1 on the Jessie Davis farm to the Big Injun sand and it is a gasser.

In Center district, Gilmer County, the Valley Gas Co.'s second test on the L. C. Heuitt farm, an old well drilled down, is dry in all sands. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has a light gasser and a small oil producer at a test on the D. A. and F. R. Fair farm.

On Big Run, Union district, Ritchie County, the Auburn Oil Co. has drilled its test on the Lawson Hall farm into the Big Injun sand and showing for a 20-bbl. producer. In Murphy district, T. J. Davis has completed in the Maxon sand a test on the Goff heirs' farm. It is a gasser good for 1,000,000 feet. In the same district, the Hope Natural Gas Co.'s test on the William H. Martin farm is a gasser in the Big Injun sand. In Union district, the same company's test on the L. M. Ehret farm is a gasser in the Maxon sand.

In West Union district, Doddridge County, the Manufacturers Light & Heat Co. has drilled a test on the I. L. Shinn farm through the Gordon sand and dry. It has been abandoned. In the same district, the Hope Natural Gas Co. has a gasser in the Gordon sand at a second test on the H. L. Hefflin farm.

Located 1,000 feet east of the Hope Construction & Refining Co.'s test on the G. C. Fisher farm, DeKalb district, Gilmer County, the South Penn Oil Co. has drilled its test on the Cradock Hardman farm through the Berea grit and dry. In Lee district, Calhoun County, the Hope Construction & Refining Co. has tested its No. 1 on the C. E. Offutt farm good for 1,500,000 feet. In Sherman district, the White Pipe Oil & Gas Co. has the rig completed for a test on the T. W. Summers farm.

In Union district, Lincoln County, the Columbia Gas & Electric Co.'s No. 3 on the A. McCallister farm is a fair gasser in the Berea grit. In the same district, the same company has rigs up for tests on the Julia M. Egnor and Rich Lovejoy farms. In Lee district, Mingo County, the Pure Oil Co. is drilling at 2,850 feet at a test on the Cotigo Development Co.'s property. In Logan district, Logan County, the Hope Natural Gas Co. has abandoned its No. 3 on the Cole-Crane tract.

In Center district, Calhoun County, the Hope Construction & Refining Co. has made a location on the Okey Parsons farm. In Center district, the same company has started to drill on the L. F. Norman farm.

Gilmer County

In DeKalb district, Gilmer County, the Hope Construction & Refining Co. is making the road to a location on the Edward Reynolds farm. In Glenville district, J. H. Taylor & Co. have shut down at 1,900 feet for orders on the Jefferson Campbell farm.

In Central district, Doddridge County, the Philadelphia Oil Co. has completed in the Big Injun sand No. 9 on the W. A. Douglass farm good for 25 bbls. a day. In DeKalb district, Gilmer County, the same company's second test on the Stalnaker farm is holding up at 20 bbls. a day. The rig for No. 3 on the same farm is building. In Clay district, Ritchie County, the same company is starting a second test on the J. R. Marsh farm.

In Union district, Harrison County, the Hope Gas Co. has started to drill to the lower sands a test on the J. W. Sommerville farm. In Grant district, the Grasselli Chemical Co. has drilled to a depth of 2,500 feet on the Mary E. Norman farm and shut down. In Coal Township, S. L. Horner has drilled to the same depth on the Edward Tittro farm and shut down. In Paw Paw district, Marion County, the Owens Bottle & Machine Co. is drilling tests on the Lot Musgrove and Lee Yost farms.

On Poplar Fork, Scott district, Putnam County, the Charleston Natural Gas Co. completed and shot in the Berea grit a test on the W. E. Wall farm. It is a light gasser. On the same stream and same district, Dallon & Franklin completed and shot in the salt sand a test on the J. S. Frazier farm. It is a very light pumper. In the same locality, Kirtley & Kirtley have completed in the salt sand a test on the Fannie J. Simms farm showing for a 30-bbl. producer in the salt sand, Located 2,000 feet east on No. 1 on the E. A. Taylor farm, the Scott Oil Co. has completed a second test on the same farm good for 15 bbls. a day.

In Union district, Ritchie County, S. O. Young and others have drilled a test on the E. E. Britton farm through the Big Injun sand good for 10 bbls. a day. It is understood that the Philadelphia Oil Co. holds the oil right on this farm and the well will be turned over to that company.

At the close of the week of development work, the West Virginia fields made a very poor showing, completing nothing of any importance. In Center district, Wetzel County, the Manufacturers Light & Heat Co. drilled No. 3 on the Patrick Clark farm through the Gordon sand and dry. In the same district, the same company completed in the same formation its test on the Ingram White farm and has a duster.

In Jackson County, the Ohio Fuel Oil Co. has completed in the Cow Run sand its test on the C. C. Waters farm. It is good for 8 bbls. a day. In McElroy district, Tyler County, the Wiser Oil Co. has completed in the Gordon sand a test on the John Mason farm showing a little oil.

Gasser in Clay County

In Henry district, Clay County, the South Penn Oil Co. has drilled No. 16 on the O. D. Stockly farm into the salt sand. It is a gasser and will later be drilled to the Big Injun formation. In Union district, Tyler County, Hill & Gordon have completed No. 9 on the Nancy Hays farm. It is dry in the Keener and Big Injun sands.

In New Milton district, Doddridge County, Trainer & Travis have a natural producer good for 8 bbls. a day in the Big Injun sand at No. 4 on the Thomas Pearcy heirs' farm.

On Meadow Run of Goose Creek, Grant district, Ritchie County, the South Penn Oil Co. has completed and shot in the Big Injun sand a second test on the Barbara James farm good for 3 bbls. a day. In Union district, S. O. Young and others are drilling at 1,300 feet at a test on the E. E. Britton farm.

(Continued on Page 84)

Will Calgary Lemons Turn Into Oranges?

Revival of the Oil Boom of Twelve Years Ago Renews Hopes of Speculators. Few of 700 Companies Survive

By Victor Lauriston

CHATHAM, Ont., Apr. 10.—The spectacular emergence, after 12 years, of a second Calgary oil boom, this time with some indications behind it of real production, has led a host of pre-war speculators to ransack old trunks and attics for oil stocks hopefully purchased in the hectic summer of 1914 and hopelessly disregarded since then.

Stories are afloat similar to that of the Calgary boniface soaking off a small section of wall paper and selling for $1,000 hard cash, and the tendency among erstwhile holders of Calgary oil stocks, after so long hoping for nothing at all, will be to hope entirely too much.

What in the way of unexpected good fortune is the attic or the old trunk likely to disgorge? Careful examination of the real prospects may at this juncture save a lot of empty hopes and subsequent cruel heartburnings.

The Calgary speculator has a double chance of getting back some of his money—that is, if he has any chance at all. If—and the if is important—his stocks are in still existent companies, he may benefit by real production developed at some vague period in the more or less distant future. There is the secondary chance that, thanks to the widespread optimism created by this new boom, he may be able to unload without waiting, perhaps interminably, for production to give real value to his holdings.

As to the prospects of real production, the 1926 boom is based almost wholly on the remarkable performance of Royalite No. 4. This well, drilled by a subsidiary of Imperial Oil, Ltd., has a proven production of 20,000,000 feet a day of wet gas with an incidental daily production of around 500 bbls. of crude naphtha. This production comes from a horizon in the Madison limestone which no other drilling test in the field has yet reached.

Prospects of Production

Several other wells have at various times got relatively inconsiderable production of oil or gas or both in the upper horizons; and any of the wells now drilling may hit the same production in the Madison limestone. Also, they may not, either because it is not there or because it is too deeply buried for the drill to reach.

The prospects of profitable production being secured by other companies are further delimited by the fact that many companies are testing a comparatively small acreage. An encouraging feature is that several drilling tests are well advanced; so that the present summer should tell the tale as to whether the Royalite No. 4 is a mere freak, or the beginning of one of the most remarkable oil fields in the world.

Apart from the chance of profits resulting from real production, there is the further chance of unloading stocks on a speculative rise. At the time of the 1914 boom, upwards of 700 oil companies were organized. Approximately 50 of these got to the actual drilling stage. Active speculation on the Calgary stock exchange was limited to about that number; the stock exchange sheet for July 14, 1914, shows quotations on 40 stocks.

Of the more than 700 companies organized, the overwhelming majority are today definitely and positively defunct, either through formal surrender of their charters or through being struck off the lists for failure to make the required returns.

The companies listed as defunct include a number which were active on the exchanges in 1914, which did some bona fide drilling, and whose stocks are still widely held. Several of these companies got actual oil production of a kind.

Pre-War Companies

Prominent in the list is the Alberta Petroleum Consolidated, a merger which absorbed a number of active companies, and which was capitalized—on paper—at $20,000,000. Its stock was, as I recol-

(Continued on Page 130)

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NATURAL GAS DEVELOPMENTS

Numerous New Uses Developed For Gas On Pacific Coast

By L. P. Stockman

LOS ANGELES, Calif., Apr. 10.—Increased population and the development of new uses for gas in southern California has made it necessary for companies operating in this section of the State to install additional facilities to cope with the situation. During the past year the Southern Counties Gas Co. spent $3,450,000 for expansion work which included the erection of a large compressor plant in the Ventura Avenue Field and the laying of an 84-mile pipe line from that district to Los Angeles. The compressor plant at Ventura is the largest in point of horsepower and number of units on the Pacific Coast. It has 27 units and is of 4,360 horsepower. The line which cost in the neighborhood of $1,850,000 is a 12-inch and has a capacity of 24,000,000 feet daily. It is now operating at nearly capacity.

In addition to erecting this new plant at Ventura and making pipe line connections with Los Angeles the Southern Counties Gas Co. installed 12 high pressure natural gas containers, two of which are now in use. Upon completion of the remaining holders the company will have a total storage capacity of more than 5,000,000 cubic feet in addition to a line pack of 3,000,000 feet. These new containers are of a new high pressure type and are designed to lay flat on the ground. It is claimed that they will not require any attendance, labor or machinery and will eliminate recompression.

The largest single consumer of the Southern Counties Gas Co. is the Long Beach plant of the Southern California Edison Co., which, operating at full capacity, would consume 70,000,000 feet of gas daily. There are 22,000 gas engines in southern California using natural gas for the generation of electric energy, not to mentional the several thousand boilers being fired to generate steam for power. Natural gas is also being used for the drying of chili peppers, walnuts, beans, fruits and vegetables. It has been demonstrated that chili peppers can be dried in 48 hours through this process while it takes approximately 30 days to dry them under the heat of the sun. The fish canning industry at San Pedro and the fruit and vegetable packing industries are just beginning to turn to the use of gas in their plants and it is quite possible that a large demand will be built up within the next few years. Sugar refineries in Orange and Ventura Counties are installing gas for fuel, it being found that their demand coming during the period from August to November does not conflict with domestic consumption. Brick and tile plants and cement plants are also turning to gas.

NATURAL GAS ENGINE BUSINESS AS MARKET FOR UTILITY COMPANIES

By F. M. Banks

Sales Supervisor, Southern California Gas Co.

Internal combustion engines using natural gas as fuel were extensively employed first in the oil and gas fields of Southern California for pumping and operating compressors. For this work both two and four-cycle engines were used. It is a well known fact that two-cycle engines do not operate with as great an economy of fuel as can be obtained with four-cycle engines, due largely to the fact that the former do not scavenge as thoroughly. However, because of the design, two-cycle engines are less expensive in first cost, and in the oil fields where conservation of gas was first considered non-essential many two-cycle engines were used. Nevertheless, the ultimate necessity for economies even in the fields has resulted in the installation of an increasing proportion of four-cycle engines. Where gas must be purchased retail the desirability of operating with the greatest possible fuel economy is more apparent, though really no more important. Under these circumstances four-cycle almost entire exclude two-cycle engines.

In southern California a relatively large portion of the water required for irrigation must be pumped. Furthermore, there are some areas in which the water level is quite low, often exceeding a depth of 200 feet below the surface. The prevalence of these conditions is responsible for the installation of a large number of gas engines for this work.

At present there are almost 400,000 active gas engine horse power connected in southern California from Bakersfield south. In the past few years installations have been made at the rate of approximately 50,000 horse power per year. In 1925, the increase was nearer 75,000 horse power. A good portion of this horse power operates continuously in oil company and gas company work. The remainder, something like 25 per cent, is used in agricultural and industrial work, engines ranging in size from two horse power to 320 horse power.

Provides Summer Load

Gas engines are installed in the majority of cases for one or both of two reasons, namely, first, necessity for uninterrupted service, and second, economy of operation as compared with other sources of power. Plants requiring uninterrupted service are in the main blessed with good daily load factors. In most plants where gas engines have operated with continued good results the season of operation is fairly long. Necessarily the realization of the economies to be effected by the use of gas engines is dependent in large measure upon a good daily load factor as well as upon a good seasonal load factor. In the majority of cases in agricultural work an engine operates over a period of six to seven months a year. For the larger water companies the season is from eight to nine months long. The third advantage to the utility then, lies in the fact that the months of heaviest operation are the summer months when additional business is desirable. Further than this, what load may exist in late fall, winter or early spring is usually very small. Hence the consumption in the aggregate tends to become a good load curve flattener.

Industrial concerns operating on surplus industrial gas rates must often be shut off from gas supply during all or portions of the winter.

A fourth advantage of the engine business is that the inherent nature of the business makes of it a summer load. Thus there is no necessity for shutting consumers off, so that once convinced of the advantages of gas, usually the business is retained without further sales effort on the part of the utility.

(Continued on Page 123)

PIPE LINE PROGRESS IN HOUSTON DISTRICT

HOUSTON, Tex., Apr. 10.—The Houston Pipe Line Co., the natural gas subsidiary of the Houston Oil Co., has completed laying of six 10-inch lines across the Houston ship channel to connect and furnish natural gas to the Baytown refinery of the Humble Oil & Refining Co. An 18-inch main extends to the channel shore. It will not be necessary to use all six of the 10-inch lines, the excess being for emergencies. In the channel proper the lines were dropped 45 feet below the surface to prevent interference with navigation and as a safety measure to the gas company.

The width of the channel and the shallow waters on either side is 2,600 feet. The lines were welded and drawn across on barges, which were towed. Frank W. Kirk, general superintendent, planned the method of laying and dropping the lines, assisted by P. J. Manion, a veteran in the work of laying pipe lines across rivers and channels.

The main from Refugio and Live Oak Counties was laid in record time, under the supervision of Mr. Kirk. Work was started in Live Oak County May 28, 1925, and the line was completed in 10 months. The distance is about 225 miles.

The company is now furnishing 45,000,000 feet per day to industries and the Humble company will take about 15,000,000 feet more for fuel under its stills and boilers. The rate is 30 cents per 1,000 feet.

Officials of oil lines witnessed the engineering feat of pulling the lines across the channel, together with officers of the gas company and contracting firm. In addition John F. Roe, chief inspector for the National Tube Co., McKeesport, Pa., W. H. Reese, metallurgist, of the same corporation and C. M. Christi, of St. Louis, were present.

Storms and heavy rains have held up the work of laying the Houston-Gulf Gas Co.'s line from Refugio County to Houston. With its completion Houston will have two gas lines from the southwestern gas fields.

The Houston Pipe Line Co. has completed a survey for an extension of its main line from Live Oak County to the gas districts in Webb and Duval Counties. The distance is about 85 miles. MacPherson and Mitchell have been awarded the contract for the work.

The Houston-Gulf Gas Co. will lay an extension from Refugio County down to Webb and Duval Counties, a distance of about 125 miles, when the main to Houston is completed.

RAILROAD TANK CARS TO TRANSPORT HELIUM

FORT WORTH, Tex., April 10.—The first of several new type railroad tank cars to be constructed for the United States Government has just arrived here. It is designed for the especial purpose of transporting helium gas from the large plant here to the air stations throughout the country. The car was built for the Army Air Service at a cost of $94,000. A similar one is being built for the navy, according to George E. Erlandson of Washington.

There are ten airships to be served by the cars which are being built for the Army. A few of the ships are semi-rigid and the others nonrigid. They each require from 130,000 to 750,000 cubic feet of helium for inflation. Seven of the ships are at Scott Field, Ill., two at Langley Field, Va., and one at Aberdeen, Md., proving ground. The first carload of helium will be shipped to Langley Field.

The new helium car is composed of three large cylinders mounted on a flat car. The car is 42 feet long, 9 feet 6 inches wide and 12 feet high. It is equipped with special valves and safety devices for protection in case of fire. The helium will not burn, but heat causes increased pressure which would result in an explosion if some of the gas was not released. All devices on the car have been approved by the Bureau of Explosives.

The cylinders will hold sufficient gas to inflate one of the Army's T-C type airships, 207,000 cubic feet of helium, with a pressure of 2,000 pounds per square inch, it is stated. The cylinder walls are two inches thick and were tested with 3,340 pounds of water to the square inch, then with 2,500 pounds of air, thus proving it to be safe to place 2,000 pounds of gas to the square inch in the tanks.

The Bethlehem Steel Co. built the car.

NEW RATE AT HOMINY

OKLAHOMA CITY, Okla., Apr. 10. Domestic rates of 47 cents per 1,000 for the first 50,000 feet and 25 cents per 1,000 for all gas consumed above 50,000 feet have been fixed by the Corporation Commission for the Hominy Light & Power Co. and the Hominy Pipe Line Co. of Hominy. The companies have been operating under basic 50-cent rate, and the commission's order requires that they reimburse consumers the difference for the period covered by the temporary order.

GAS ANNIVERSARIES CELEBRATED THIS YEAR

The 130th, 120th and 110th anniversaries, respectively, of three notable events in the history of gas production in the United States will be observed this year. The first was the first public display of manufactured gas, the second illumination of a house with gas and the third the establishment of the first illuminating gas plant.

In 1796 M. Ambroise, an Italian pyrotechnist, showed to a number of friends gathered in Philadelphia a crude iron retort which sent gas into his rooms through homemade pipes. Gas distilled in the retort burned as it came from the pipe without any burner and, according to contemporary reports, "was seen with vast admiration."

In 1806 David Melville of Newport, R. I., made a gas distillation apparatus and lighted his home with it. His neighbors, many of them retired sea captains who believed whale oil the ultimate source of illumination, were said to have criticized him severely.

The first gas manufacturing plant was established in 1816 at Baltimore and was followed in 1823 by one in New York City which was the forerunner of the present metropolitan system. The gas stove appeared in 1876 and, beginning in 1882, when electricity entered the lighting field, came into steadily increasing use.

At present only about 15 per cent of gas produced is used for lighting. Sixty per cent is used for cooking and domestic heating and 25 per cent for industrial heating. In 1925 gas companies in the United States sold more than 400,000,000 feet of gas, or more than double the quantity sold in 1915. Of the 1925 output, New York State consumed 100,000,000,000 feet. There are now in New York State 15,000 miles of gas mains, serving towns and cities in which nine-tenths of the population live. It is estimated that more than two-thirds of all food prepared in the United States is cooked on gas stoves.

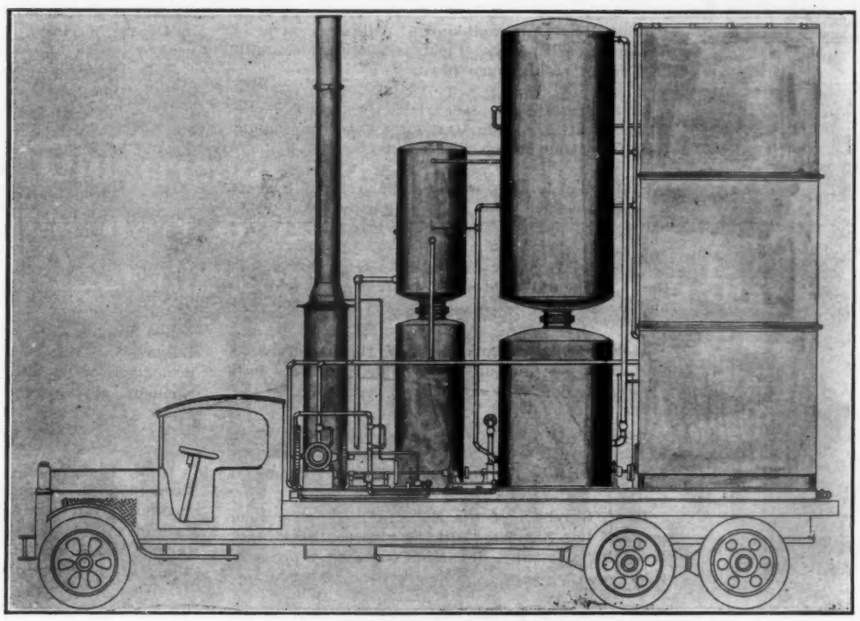
OKLAHOMA NATURAL REPORT

Oklahoma Natural Gas Co. reports for year ended December 31, 1925, net income of $1,797,382 after expenses and interest but before depreciation and depletion against $2,014,123 in 1924.

Income account for 1925 compares as follows:

	1925	1924
Gross	$6,115,235	$5,487,530
Expenses	4,264,069	3,440,437
Operating profit	$1,851,166	$2,047,093
Interest	53,784	32,970
*Net income	$1,797,382	$2,014,123
Dividends	1,143,440	1,142,881
*Surplus	$653,942	$871,242

*Before depreciation and depletion.



Du-More Portable Absorption Plant

IT'S HERE!

The National Gas Products Corporation announce the Du-More *portable* gasoline plant, a complete absorption gasoline plant, which needs no additional equipment whatever to manufacture gasoline.

EIGHT HOURS AFTER THIS PLANT IS ON YOUR LEASE IT IS MAKING GASOLINE! Just connect the absorber to the gas supply, fill the system with absorption oil, light the fire under the still and the plant is in operation. Its very simplicity accounts for its unusual capacity for its size. The two million-foot plant, which has an overload capacity of at least 100%, is only 11 feet wide, twenty-eight feet long and 11 feet high, when prepared for shipment.

The entire plant is mounted on a channel frame in such a way that it can be moved in one piece, or if it is desired to reduce height and weight, the tops of the Absorbers, Cooling Tower and Evaporator can be easily removed and transported separately. Each piece of equipment is made separately and then bolted together, making complete dismantling easy when moving over difficult ground.

Write for complete data.

The DU-MORE *PORTABLE* GASOLINE PLANT is a *complete* plant in itself . . . the latest development in gasoline plants has the greatest capacity and highest efficiency . . . it is the plant you have been waiting for . . .

The Latest and Greatest PORTABLE Gasoline PLANT Is a Product of

NATIONAL GAS PRODUCTS CORPORATION

1215 Detweiler Bldg. Los Angeles, Calif.

MEN KNOWN IN OILDOM

Harry J. Bauer

When Harry J. Bauer became president of the Pacific Gasoline Company back in 1921 the natural gasoline business was far from what it is today, both from a financial and economic standpoint. Mr. Bauer became secretary and general counsel of the Pacific Gasoline Company of California in 1911 and assumed the presidency of the present organization upon acquisition of the Brea Gasoline Company, Midway Gasoline Company, Sixteen Oil Company and Puritan Oil Company in 1921.

From this comparatively small beginning Mr. Bauer has built up the Pacific Gasoline Company until today it is regarded as the largest and most successful manufacturer of natural gasoline in the State of California. He was born at Bunker Hill, Ill., on August 31, 1883, and after graduation from the Pasadena High School he entered the College of Mining of the University of California.

Mr. Bauer entered the employ of the Southern California Edison Company in 1908 as a law clerk at a salary of $25 a month. He was graduated from the law school of the University of Southern California in 1909 and advanced to the position of general counsel, which position he was occupying when other interests resulted in his resignation in 1919. Mr. Bauer has just been elected a director of the Southern California Edison Company, succeeding William E. Dunn.

Of his early years in the law department, one of Mr. Bauer's former associates in the Edison company tells this incident. While he was talking with the late Harry H. Trowbridge, then general counsel, young Bauer walked by. "There's an alert young chap," Trowbridge remarked. "I'm going to make something of that boy." Trowbridge, who had served as an associate of Chauncey Depew in the law department of the New York Central, later was to see his protege standing by his side in some of the most important legal problems and battles of the Edison company.

PERSONAL PARAGRAPHS

W. A. Grimland of the Sinclair company organization in Mexico is spending a vacation at his home in Sonora, Tex.

* * *

Thomas B. Greene, Lima, Ohio, general manager of the Buckeye Pipe Line Company, was a Pittsburgh, Pa., visitor recently.

* * *

John J. Castell, who formerly operated in the Humble Pool, is in Houston, Tex., from Des Moines, Iowa, and will probably reenter the producing business.

T. L. Lewis of Pittsburgh, general sales manager for the A. M. Byers Company, has been making a tour of the Texas oil fields.

* * *

John Reigel, a well-known drilling contractor in the Owensboro, Ky., Field, is visiting his family at Kane, Pa., his home town.

* * *

H. H. Maxson was reelected as secretary of the Independent Petroleum Marketers Association at the recent meeting of the association.

* * *

E. M. Welch of New York City, shipping agent for the Buckeye Pipe Line Company, paid Pittsburgh, Pa., a business visit recently.

* * *

Clarence A. Stuck of the industrial division of the Continental Motors Corporation, Detroit, is making a trip through the coastal region.

* * *

J. K. Broderick, president of the Broderick & Bascom Rope Company, St. Louis, Mo., has been visiting in the Mid-Continent oil region lately.

* * *

Vernon C. Brown has been elected director of the North Central Texas Oil Company to fill the vacancy created by the death of Seymour L. Cromwell.

* * *

R. C. Garetson of the Baker Casing Shoe Company of Los Angeles, Calif., is visiting the B. & A. Specialty Company, its Mid-Continent representative.

* * *

F. B. Sheldon of Riverton, Wyo., oil operator and discoverer of the Sheldon Dome north of Riverton, was a business visitor in Casper for a few days recently.

* * *

Forest E. Gilmore of Los Angeles, vice president and general manager of the Forest E. Gilmore Company, is visiting the Tulsa, Okla., offices of the company.

* * *

W. T. Cushing, well-known pipe line official, has established headquarters at Shreveport, La., as representative of the Dearborn Chemical Company, Chicago.

* * *

Frank C. Greene, consulting geologist of Tulsa, spent several days last week on a trip to Arkansas and reports considerable activity in the vicinity of El Dorado.

* * *

The McCollum Geological Explorations, Inc., has established a coastal branch with offices in the Humble Building, Houston, Tex., with R. E. Marston in charge.

* * *

O. E. Gilbert, of the geological department of the Mexican-Gulf Oil Company, has returned to Tampico after a vacation with friends in Dallas, Tex., and St. Louis, Mo.

* * *

P. R. Evans, prominent business man of Louisville, Ky., visited the Owensboro, Ky., oil area and contemplates doing some development work as soon as the weather settles.

* * *

C. E. Sutton, petroleum engineer and geologist of the Interstate Oil Corporation, has just resigned in order to accept a position with the United States Bureau of Mines at Dallas, Tex.

* * *

Jay Bird of Hanley & Bird and Titus, Norris & Bird, whose home is Bradford, Pa., was a Tulsa visitor the past week. He came west to look over Oklahoma production in which he is interested.

* * *

M. W. Hagan, Ashland, Ohio, and C. V. Murrin, Lancaster, Ohio, were visitors in the new field north of Saginaw, Mich. Both expressed themselves as believing the prospects at Saginaw are promising.

* * *

Ralph H. Espach, engineer with the Empire Gas & Fuel Company, Bartlesville, Okla., has resigned to go with the United States Bureau of Mines, Bartlesville station, as assistant refinery engineer.

* * *

J. E. Eaton, consulting geologist, who was engaged for about 21 months in geological mapping for the John Hays Hammond interests, has established offices as a consulting geologist in the Petroleum Securities Building, Los Angeles.

Ira G. Wetherill, former head of the National Supply Company in the Rocky Mountain region and now located at Independence, Kans., visited friends and transacted business for his company in Denver recently.

* * *

J. L. Davidson of the Gulf organization has returned from the Lake Maracaibo district in Venezuela, where he has been located for more than one year. He has been assigned to the Panhandle district in Texas as warehouseman.

* * *

R. A. Howell, superintendent of the gas and gasoline department of the Standard Oil Company of Louisiana with headquarters in Shreveport, left a few days ago for New York to sail to Venezuela. He will spend a few weeks there on a study and inspection trip.

* * *

Leo Ranney has assumed the presidency of the Ranney Oil Mining Company, an engineering and geological organization devoted to the technical problems of the recovery of oil by mining operations. The office of the company is at 26 Broadway, New York.

* * *

D. C. Richardson, independent producer, known throughout the Louisiana-Arkansas district and discoverer of the Pine Island area in north Louisiana, underwent a major operation in a Shreveport sanitarium March 25. He is reported as out of danger and slowly recovering. His son, D. C. Richardson, Jr., Tulsa, Okla., is at the bedside of his father.

* * *

F. E. Seaver, assistant secretary of the Los Angeles Gas & Electric Corporation, was recently elected a member of the board of directors to succeed William Van Dyke who has resigned because of a prolonged illness. Mr. Seaver has been with the company since 1907 at which time he entered the service as a bookkeeper.

* * *

The two vacancies on the board of directors of the United Oil Company, Los Angeles, Calif., were filled by the choice of Edward J. Nolan of the law firm of Page, Nolan, Rohe & Hurt to succeed the late Benjamin E. Page and Fred W. Flint, Jr., secretary-treasurer of the O. T. Johnson Corporation, to fill the vacancy which has existed since the number of directors has increased from 7 to 11 several months ago.

* * *

Eight officials of the Magnolia Petroleum Company from the Louisiana-Arkansas district attended the meeting of Magnolia officials in Dallas, Tex., recently. Attending the meeting from the Shreveport district were E. D. Holcomb, division superintendent; A. A. Mason, head of the land department; D. E. Farris, superintendent gasoline department; A. D. Wightman, drilling superintendent, and John Wells, R. A. Miller, A. H. Henderson and J. M. Courtney, field superintendents.

* * *

After making an extensive tour through the Mid-Continent Field primarily for establishing direct factory branches and service headquarters in Houston and Tulsa, Joseph M. Regan of the Regan Forge & Engineering Company, San Pedro, Calif., has decided to make a survey of oil fields in Mexico and is leaving for the southern field this week. For the past three weeks he has been in and around Houston, accompanied by Lew D. Hilton, new Mid-Continent manager. Before returning to the factory at San Pedro he will visit New York to discuss business with the exports manager, William Braat.

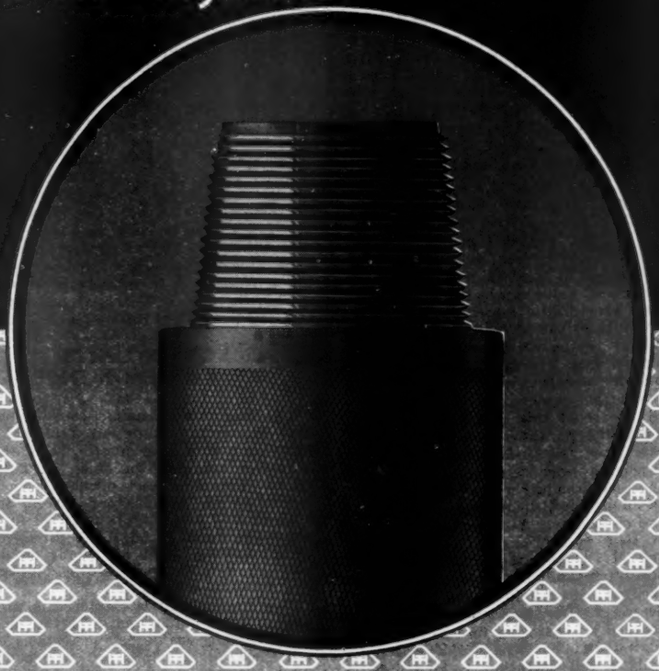
* * *

Harry J. Brown, general manager of the Wrightsman Petroleum Company, has resigned, effective May 1. It is understood he will head a new company in the Mid-Continent Field, with headquarters in Tulsa. Mr. Brown is a graduate of the University of Oklahoma, a professional geologist and was associated with the Empire Oil Company. He came to Tulsa four years ago with the removal of the Pierce Petroleum Company's offices from Fort Worth. At that time he was in charge of its land and lease department. He was chief geologist and manager of the land department of Wrightsman Petroleum Company, and about a year ago was made general manager of Wrightsman Petroleum Company and of Mr. Wrightsman's personal interests.

Old friends are the real foundation
for new ones.
Operators and Contractors who first used

HUGHES TOOL JOINTS

are the men who today recommend
them the highest.



EQUIPMENT AND SUPPLIES

NEW MIXING VALVE SIMPLY CONSTRUCTED

The Star Drilling Machine Co., of Akron, Ohio, is just announcing its new Star natural gas mixing valve designed for multiple cylinder gasoline engines. The feature of the new Star valve is its simple two-piece construction that insures maximum efficiency without requiring frequent adjustments.

It is said to be easily installed and becomes a permanent part of the carburetor, permitting switching from one fuel to the other without stopping the engine to make adjustments.

The Star valve is used with a low pressure regulator and operates efficiently on 1½ ounces of pressure. Gas supply is controlled by a needle valve. This, it is said, when once adjusted, requires no further adjustment. The carburetor choke valve regulates the air feed. Engine speed is controlled by a regular carburetor throttle lever.

The Star valve can be used, it is said, on nearly all multi-cylinder engines in general use in the oil and gas fields.

ELECTED PRESIDENT

H. H. Coombe has been elected president and treasurer of the William Powell Co., manufacturers of steam engineering specialties. Mr. Coombe has been associated with the company for many years, serving as vice president and treasurer since 1912. He was originally elected a director in 1902. His father, Elijah Coombe, was one of the original directors of the company at the time of the incorporation July 1, 1886.

H. H. Coombe

The business was originally established by William Powell, Sr., under the name of William Powell & Co. in 1846, having a very small beginning, and has steadily grown until it is one of the foremost manufacturers of high-grade bronze, iron and steel valves, and steam engineering specialties. The other officers are James Coombe, vice president and general manager, and George B. Weitkamp, secretary.

SEPARATORS DESCRIBED

An attractive new catalog describing the complete line of separators and other oil field specialties handled by the Smith Separator Co. of Tulsa has just been published and is being distributed to the trade. The booklet contains 30 pages and is in loose-leaf form. Specifications and illustrations of five types of Smith separators are included, along with information on the Waters water gauge, Reed air filters, Deming pumps, American-Marsh pumps, Barton portable pumps, and specialties of the Fisher Governor Co.

DEMAND FOR OIL COUNTRY STEEL GOODS WIDESPREAD; PRICES FIRM

By B. E. V. Luty

PITTSBURGH, Pa., Apr. 12.—No line pipe business of importance has been reported in the week. Mills are still producing a large tonnage against recent orders, which will last them quite a while. There has been a little further improvement in buying of casing, tubing and other well material, with a little increase in demand for merchant pipe.

Mills are operating at slightly better rates than at the end of March, or at between 85 and 90 per cent. Several independent interests have a practically full operation. Almost all the lap weld furnaces in the industry are in operation, such idleness as exists being confined almost entirely to butt weld furnaces.

Demand for oil country goods is now widespread, coming from all fields. Of particular note is the demand from western Pennsylvania and West Virginia for drilling gas wells. Indications are this well be the most active year in gas well drilling in this general field in many years. The gas companies all made large profits during the winter, consumption of gas being far above the average on account of the length of the winter, which had a very early beginning and so far as burning gas is concerned is not ended yet. It seems to be the custom of the gas companies to spend money in extensions in proportion to the profits they have had. These gas wells generally run about 3,000 feet, taking three carloads of casing, tubing, etc.

Prices Continue Firm

Pipe mill prices continue to be held rigidly as they have been for so long. No question is raised, prices being taken for granted. In this respect the pipe trade is quite different from several other finished steel lines, in which prices are continually being considered and in which there are variations according to the desirability of the individual order.

Late in the old year the steel trade entered upon a period of unusual activity, and this has been prolonged beyond the expectation of most observers, who naturally expected this period to run something like its three predecessors in the past three years, there being a burst of buying, a peak rate in mill operations and then promptly a slow or rapid falling off in buying demand and in production and shipments. A particularly high rate of steel production was reached at the end of October, there being practically steady production for four months and then an increase in March instead of a decrease. The steel industry as a whole reached an operating rate so close to its limit that it could be regarded as practically a full operation, lacking only the circumstance of mills falling behind in shipments. For a few days the Steel Corporation produced ingots at 102 per cent of its estimated tonnage capacity.

There was a slight increase in buying and specifying in March, accounting for the heavier production. Thus far this month no precise figures have accumulated to show a decrease from the March rate, but it is commonly supposed that in most lines there will be a little tapering off. This, as indicated above, does not apply to the tubular goods branch of the steel industry, which has been gaining to date and may be expected to gain farther, and much the same observation applies to wire products, with the difference that the wire mills have not had as heavy an operation as the pipe mills, having gotten up only to about a 70 per cent rate.

Within the past few weeks the automobile trade has begun tapering off in its requisitions for steel, and the peak rate for the year in automobile production has probably been passed. A little decrease in requirements of the agricultural implement trade is to be expected as that trade is generally less active in summer.

There has been no freight car buying of consequence in the past three or four weeks, but there is a fair volume of business on the books of freight car shops.

Pig iron and coke continue dull.

MORE PORTABLE PLANTS FOR MID-CONTINENT AREA

That there is a steadily increasing demand for portability in gasoline absorption plants in the Mid-Continent area is evidenced by recent orders placed with the Southwestern Engineering Corp., of Los Angeles, Calif.

Recent business booked by this company for portable unit system gasoline absorption plants covers five plants all going to Mid-Continent operators. Two outfits are to be shipped to the Mid-Continent Petroleum Corp., and one to the Amerada Petroleum Corp. This is the second Southwestern plant purchased by the Amerada. Another complete Southwestern portable unit system plant will be sent to the Shaffer Oil & Refining Co. The Roxana Petroleum Corp. has placed a third order for a Southwestern portable absorption plant.

The flexibility of the unit principle of gasoline absorption plants offers distinct advantages. It takes care of increased capacity by the addition of further parallel units and decreased capacity, where gas volumes recede by withdrawing a unit. The full economic operation thereby occurs either with increased gas flows, or with receding pressures and volumes. There is practically no salvage loss in moving the units, which is an added feature of advantage of this system.

FIELD POWER UNITS TO BE ON DISPLAY

The Buda Co., manufacturers of natural gas and gasoline oil field power units and electric generating sets, has opened a southwestern office in Tulsa, Okla. The office and display room is located at 311 East Second Street. Several oil field power units from 50 to 80 horsepower and a 10 K.W. direct-connected lighting plant are to be on display as well as some heavy duty gas and gasoline engines.

One feature that is attracting a great deal of attention in the display room is a heavy duty engine having sections cut out showing the internal construction. The large water passages and the simple force feed oiling system are plainly visible. This is of special interest as it is the same size that is used on the portable duplex oil pumping units that are used extensively by the oil and pipe line companies for pipe line boosting units, oil pick-up units, high pressure water pumping units and other similar purposes.

A. F. Ochtman, sales engineer of the Buda company, is in charge of the new office.

TWO NEW BOOKLETS

The Brown Instrument Co. of Philadelphia, Pa., has published two new pieces of literature of interest to the trade. One is entitled "Brown Resistance Thermometers—Catalog No. 92," containing 20 pages and the cover. In it are reproduced in actual colors the complete newly designed line of Brown resistance thermometers, along with pictures and complete description in detail of the new Brown continuous recording resistance thermometers.

The title of the other booklet is "Instructions for the Installation and Care of Thermo-Electric Pyrometers," which is a volume of 80 pages, with 90 illustrations in halftone and line. The following subjects are thoroughly covered: Theory or Thermo-Electric pyrometry; installing pyrometers; instruments installed ready for use—indicators; instruments installed ready for use—continuous recorders; and checking pyrometer installations. The booklet is conveniently indexed. While its title is similar to that issued by the Brown company two years ago, the matter has been completely revised and the instructions now cover the new Brown line of continuous recordeds brought out within the past 15 months.

NEW MODEL OF SWAB READY AFTER TESTS

A new model of the Guiberson swab has just been announced after thorough field tests by the manufacturers. The new design is called the "Type E," and is intended primarily for production work. It has had especially thorough try-outs in the Tonkawa and Garber Fields, in the hands of producers, and has been adopted as standard equipment by a number of leading operators in these fields, and reported to be fully as efficient for production work as the "Type A."

The new design operates on exactly the same principle as the older one. Wire-supported composition cups are used to permit ready yielding in passing through rough or indented casing. An extra large mandrel and check valve provide ample passageway for the fluid when running in, the manufacturers say, adding that fluid also readily by-passes the cups when running in, so that the swab goes down the hole easily and rapidly, without the necessity of a stem or other heavy weight to force it.

With the new design changing of cups is described as a very simple operation. Check valve at bottom is merely unscrewed, after which the two cup assemblies and the loose sleeve which separates them readily slip off the mandrel. New cups are instantly slipped into position.

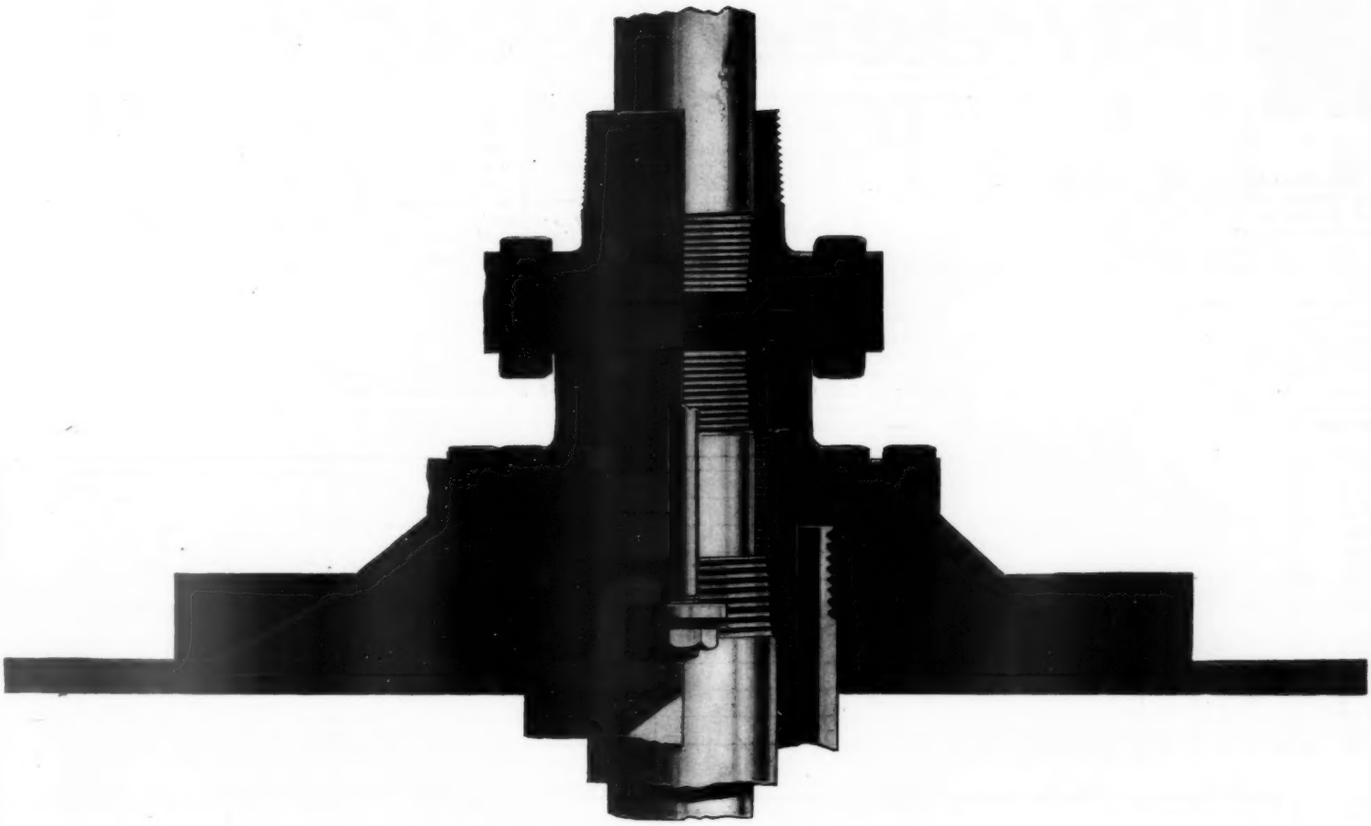
The new swab has a special advantage in its extreme shortness, which, it is said, permits it to go around even the worst crooks in the hole, with ease.

The manufacturers will continue to manufacture the old "Type A" swab and to maintain a complete stock of cups and parts for it.

O. C. S. REPRESENTATIVES

The O. C. S. Manufacturing Co. of Coffeyville, Kans., announces the following appointments of field representatives: J. W. McKewon, Oklahoma, with headquarters at Tulsa; Jim G. Litherland, Arkansas, Louisiana and the East Texas area, with headquarters at Shreveport, La.; John H. Moran, West Texas area, with headquarters at Fort Worth.

and Control Head



Lew D. Hilton, who is in charge of our Mid-Continent office at Houston, has had a wealth of experience in directing oil drilling production and has for many years been recognized as especially qualified on control work. His services or his advice are at your command without charge. Call on him.

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of Quality Oil Well Equipment

Refining in the Louisiana Gulf Coast

Seven Plants All Located Along Mississippi River, Four in Hands of Large Integrated Companies

By Charles E. Bowles
Petroleum Analyst, The Oil and Gas Journal

There are only seven refineries in the Louisiana Gulf Coast area. Three of these are in the hands of minor units — the other four are in the hands of four large integrated companies of national and international importance.

The 60,000-bbl. plant at Baton Rouge is owned by the Standard Oil Co. of Louisiana which is a subsidiary of the Standard Oil Co. of New Jersey.

The 25,000-bbl. plant at Destrehan was formerly owned by the Pan American Petroleum & Transport Co. (Doheny interests) and, with other properties in the United States and Mexico, was recently taken over by the Standard of Indiana.

The 20,000-bbl. plant at Norco, near New Orleans, is owned by the New Orleans Refining Co., a subsidiary of the Royal Dutch-Shell.

The 10,000-bbl. plant at Meraux is a Sinclair plant. These four plants have an aggregate capacity of 115,000 bbls. a day and all were operating January 1, 1926, as indicated by the report of the United States Bureau of Mines. Further details of these four major and the three minor plants are shown in Table 1 herewith.

Runs to Stills in 1925

During 1925 these seven plants ran to stills over 50,000,000 bbls. of crude oil of which a little over 40,000,000 bbls. was domestic and almost 10,000,000 bbls. foreign (Mexican) oil.

Table 1—Refineries in Louisiana Gulf Coast Area—From January 1, 1926, Report of the United States Bureau of Mines

Location—	Daily Cap.	Type	Status
Baton Rouge	60,000	*Comp.	Optg.
Destrehan	25,000	*S. & A.	Optg.
Norco	20,000	*S. & A.	Optg.
Meraux	10,000	S. & A.	Optg.
Chalmette	4,500	Skim.	Optg.
New Orleans	3,000	Skim.	Optg.
Good Hope	10,000	S. & A.	S. D.

*Has cracking plant. Note — Skim. is skimming plant; S. & A. is skimming and asphalt plant; Comp. is complete type of plant making all products.

All Along Mississippi

All of these refineries are on the Mississippi River—one at Baton Rouge and the others in the general vicinity of New Orleans. The pipe line which ends at Baton Rouge starts in eastern Oklahoma. The three former sections of this line (Oklahoma, Arkansas and Louisiana) are now owned by subsidiaries of the Standard of New Jersey. Thus the Standard of New Jersey's refinery at Baton Rouge is assured a regular supply of Mid-Continent oil. Crude supply is further assured by tanker shipments up the Mississippi and also by a recently completed 10-inch line from the Smackover Field to a point directly east on the Mississippi River with water transport to Baton Rouge. The refineries in the vicinity of New Orleans secure their crude entirely by tanker—and from either Texas Gulf Coast points, from Mexico and, since 1923, to a small degree from California.

This background of the source of its crude supply is essential to a clear understanding of this unusual refining area.

Shift in Finished Products

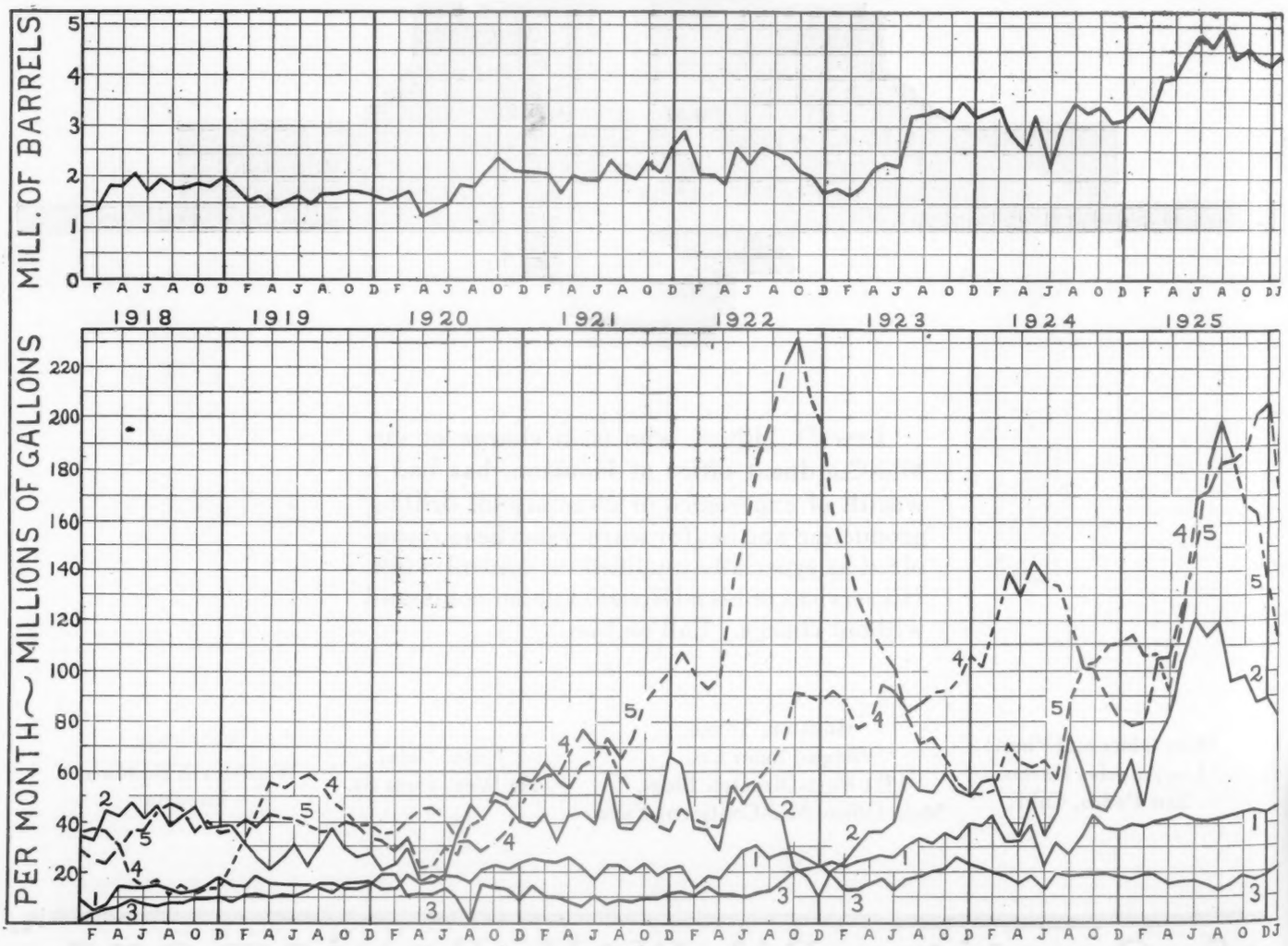
Easily the outstanding thing in the Louisiana Gulf Coast area in 1925 was the wide shift in the proportion of the finished products turned out as compared with the record of previous years. For most of the years prior to 1925 the refining output of this area followed the general tendency of more gasoline and less fuel oil. But 1925 witnessed a radical change as is shown in the following table:

Table 2—Crude Supply and Refining Operations in the Louisiana Gulf Coast in 1924 and 1925

Item—	Unit	1924	1925
Crude prod.	Bbl.	2,487,000	3,109,000
Impts., crude and refined	Bbl.	16,217,000	13,511,000
Receipts of Calif. oil, crude and refined	Bbl.	1,868,000	1,509,000
Crude run to stills:			
Domestic	Bbl.	27,692,000	40,763,000
Foreign	Bbl.	9,062,000	9,995,000
Output:			
Gasoline	Gal.	418,000,000	499,000,000
Kerosene	Gal.	223,000,000	224,000,000
Fuel oil	Gal.	601,000,000	1,094,000,000
Lub. oil	Gal.	29,000, 00	31,000,000

Gasoline Production

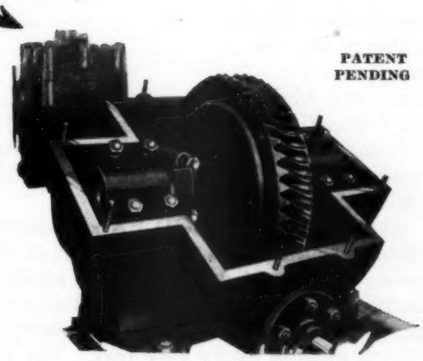
With local production, Mexican imports and California oil not greatly different in 1925 from 1924 the increase from 27,000,000 bbls. of domestic crude run to stills in 1924 to 40,000,000 bbls. in 1925 (an increase of about 50 per cent) would presumably result in a proportionately larger increase in gasoline output than of other products. This proportionately larger increase in gasoline recovery did not take place, however. Instead there was an increase of less than 20 per cent in the output of gasoline—one-half of 1 per cent in kerosene, about 7 per cent in lubricating oil


MILL. OF BARRELS PER MONTH
MILLIONS OF GALLONS
1918
1919
1920
1921
1922
1923
1924
1925
F A J A O D F A J A O D F A J A O D F A J A O D F A J A O D F A J A O D F A J A O D F A J A O D

Louisiana Gulf Coast refining area. of crude oil to stills with output of four major products and stocks of gasoline and fuel oil. From data of the United States Bureau of Mines. Upper section, crude oil run to stills. Lower section, Line 1, gasoline made—Line 2, fuel oil made—Line 3, kerosene made—Line 4, gasoline in storage at refineries—Line 5, fuel oil in storage at refineries. Lubricating oil output too small to be shown on this graph.

ANNOUNCING!
GASO PORTABLE PUMPING PLANT
With Worm-Driven Self-Lubricating Pump

Here is something strictly *new* in Oil Industry pumping equipment—a new enclosed, self-lubricated Gaso Pump, with new *worm drive*—direct connected to 40 H. P. Buda Power Unit. This plant is offered mounted either on four-wheel trailer or on channel iron skids, as shown on opposite page.



PATENT PENDING

View of Power End of Pump Showing Bronze Worm Gear Running in Oil Bath

Since this plant was exhibited at the Petroleum Exposition last fall it has had a most thorough field try-out by several leading operators and has proved to be ideal equipment for "pick up" in case of pipe line breaks, for temporary or semi-permanent pump station and booster service, for water supply in drilling operations, etc.

SPECIFICATIONS

PUMP—Heavily constructed duplex double acting power pump with interchangeable cylinder liners from 2½" to 5", with 10" stroke. Capacities ranging from 45 bbls. per hour at 800 lbs. pressure per square inch, to 250 bbls. per hour at 275 lbs. pressure per square inch. Has bronze ring gear and steel worm, with double-thrust ball bearings, all enclosed in housing and running in oil.

Pump is direct connected to the power unit through two flexible couplings, to compensate for any distortion when conveying over rough roads and to maintain perfect alignment.

POWER UNIT—40 H. P. Buda four-cylinder motor equipped with combination gasoline and natural gas carburetor. Pierce Governor.

TRAILER—Standard tread, four wooden wheels, equipped with 36x5 Cushion Tires. Special extra large axles with Timken Roller Bearings. Front axle has regular automobile knuckle joint steering arrangement. Frame is constructed of heavy channels and has steel tool box mounted under frame, all resting on four 48", 12-leave Vanadium Steel Springs.

Designed to be transported at regular truck speed. *Ask for further details.*

GASO PUMP & BURNER MFG. COMPANY
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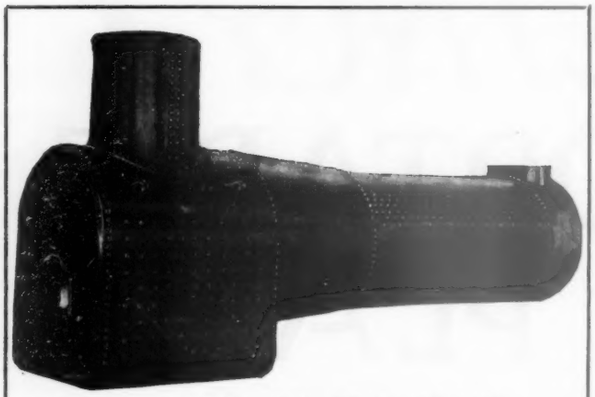

Donovan—A.S.M.E. Code—Oil Country Boiler

El Dorado, Ark.,
Nov. 16, 1925

Donovan Boiler Works., Inc.,
Parkersburg, W. Va.
Gentlemen:

During my visit at the 1925 International Petroleum Exposition, which was held in Tulsa, there was nothing, after viewing all the exhibits, which impressed me more favorably than the DONOVAN boiler in operation.

We use DONOVAN BOILERS exclusively and have always found them to be perfect in their performance. I do not believe that steam boilers could be put to a more rigid test than that of rotary drilling, especially that of the Smackover formations which change every few feet. We have soft digging and then tough gumbo. This causes sudden pulls, causing the water to rise and fall. We have also found the DONOVAN BOILER to be more satisfactory on account of having to use bad water, as they have an advantage over some other makes in having a longer distance from the bottom gauge to the crown sheet.

We have carried a working pressure of 180 pounds on the non-code, 66-H.P. DONOVAN BOILER and 200 pounds on the A.S.M.E. code, 70-H.P. DONOVAN BOILER and have always found them to be perfectly safe.

Yours very truly,
GARRETT-MODESETT DRILLING CO.
Signed: J. M. Garrett.

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Mid-Continent Distributors
GREAT NORTHERN TOOL AND SUPPLY CO.
MIDLAND IRON WORKS
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ALL LEADING SUPPLY HOUSES THROUGHOUT THE EASTERN FIELDS HANDLE

Donovan Quality Products
Always Strong

and over 80 per cent in fuel oil. This unusual shift is clearly shown in the accompanying "100 per cent graph."

Obviously this result can be traced to two causes—a lower average grade of crude run to stills—and a market condition that made it more profitable to make more fuel oil and less gasoline in 1925 than in 1924. And that this was a local condition is borne out by the fact that very dissimilar refinery results were obtained in the Oklahoma-Kansas area, in inland Texas and in the Texas Gulf Coast.

In this connection it is very interesting to note that since the opening of the Los Angeles Basin fields in 1923 not a barrel of California oil has gone to the great refineries in which is known as the Houston area—only about 600,000 bbls. have gone to the refineries in the Port Arthur-Beaumont area—over 6,000,000 bbls. went to the plants on the lower Mississippi in 1923, less than 2,000,000 bbls. in 1924 and about 1,500,000 bbls. in 1925.

Little California Crude

Essentially then, the entire Gulf Coast has handled but little California oil. Shipments of Mexican oil to refineries on the lower Mississippi have changed but little during the last three years while shipments to the Houston area dropped from 17,000,000 bbls. in 1923 to 8,000,000 bbls. in 1925 and in the Port Arthur-Beaumont area from 11,000,000 bbls. in 1923 to less than 3,000,000 bbls. in 1925.

As the Louisiana Gulf Coast refineries ran over 40,000,000 bbls. of domestic oil in 1925 and as the total local production of crude oil was only about 3,000,000 bbls. and the California receipts less than 1,500,000 bbls. it is obvious that over 35,000,000 bbls. of crude from Oklahoma, Texas, Arkansas and north Louisiana must have found their way into Louisiana Gulf Coast refineries last year.

In Table 1 it will be noted that three of the large plants are "skimming and asphalt" while the 60,000-bbl. plant at Baton Rouge makes everything from gasoline to petroleum coke and asphalt. The result of the operation of this type of refinery is clearly reflected in the wide space (4) at the top of the "100 per cent graph" in which space the largest single item is asphalt. In 1925, 1921 and 1918 the percentage of fuel made was unusually large as compared with the other years. The World War with its need for fuel oil explains 1918—a situation somewhat similar to that of last year explains 1921—while a strong market along with enormously increased supplies of heavy crude answers 1925. The other years shown on the graph run along very regularly as the following table shows. All amounts are in percentages.

Year—	Gasoline Recov'y	Fuel Oil Recov'y	Kerosene Recov'y	Lub Oil Recov'y
1918	17.3	55.1	9.6	1.8
1919	22.7	42.1	18.4	1.6
1920	25.2	43.8	17.1	2.0
1921	25.8	49.6	11.2	1.5
1922	25.1	40.8	15.8	2.8
1923	26.5	38.3	16.4	1.9
1924	27.1	38.9	14.5	1.9
1925	33.4	51.3	9.4	1.5

In the large graph it is interesting to note how fuel oil stock, after traveling close to fuel oil production for four years, struck its peak in October, 1922, while production struck bottom 60 days later. Ascending production met descending stocks in December, 1923, since which time they have not been dangerously out of line. It is also interesting to note the general similarity of the fuel oil production and fuel oil storage curves in 1925 and that while the year closed with a monthly production of 90,000,000 gallons, storage was only slightly over 130,000,000 gallons.

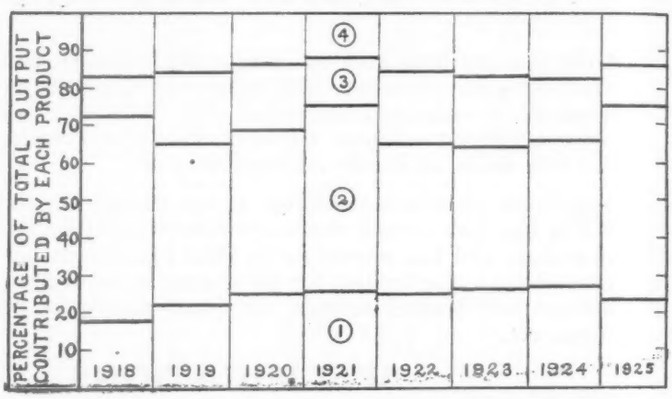
During the last three midsummers the space between gasoline storage and gasoline production has been widening—and in 1925 every month showed an increase in gasoline in storage in this area, the first break coming in January, 1926.

This area accomplished a remarkable thing in 1925 in that while its fuel oil production increased from 600,000,000 gallons in 1924 to almost 1,100,000,000 gallons in 1925 the year 1925 ended with an amount of fuel oil in storage equal to about 45 days production.

With 115,000 out of a total of 132,500 bbls. of refining capacity in the Louisiana Gulf Coast area in the hands of the Standard of New Jersey, Standard of Indiana, Sinclair and the Royal Dutch-Shell with their widely distributed sources of supply, great land and marine transportation systems, world-wide markets and vast financial resources it is obvious that this refining area is in essentially safe hands.

SIXTH OF SERIES

This is the sixth article of a series covering each of the refining areas of the United States. The first article, "Oklahoma-Kansas in Fine Position," appeared March 4—the second, "Inland Texas' Position in Refining," March 11—the third, "Refining in the Texas Gulf Coast," March 18—the fourth, "Background of California's Advance," March 25—the fifth, "Rocky Mountain Area," April 8. The Arkansas-north Louisiana area and the areas east of the Mississippi River will conclude the series.



Louisiana Gulf Coast refining area. Space 1, gasoline recovery—Space 2, fuel oil recovery—Space 3, kerosene recovery, including a small percentage of lubricating oil—Space 4, all other products of which the largest is asphalt. Based on data of the United States Bureau of Mines.

EASTERN FIELDS

(Continued from Page 70)

In DeKalb district, Gilmer County, the Pittsburgh & West Virginia Gas Co. has a duster in the Big Injun sand on the A. M. Springton farm. In the same district, the Hope Natural Gas Co. has a gasser in the Maxon sand on the W. H. Otto farm. On the Margaret P. Silcott farm, Sheridan district, L. B. Carroll has a gasser in the Big Injun sand.

Marion County

In Mannington district, Marion County, Funk & Co.'s test on the W. O. Mayne farm is a gasser in the Big Injun sand.

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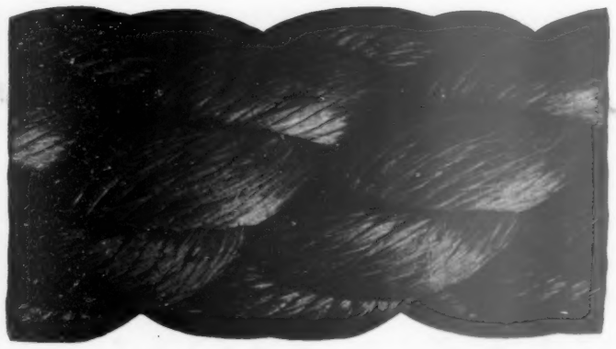

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What make of Manila Cable is the next question.

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"Drill With Manila"

In the same district, the Hope Natural Gas Co.'s test on the Ella Kindsay farm is dry in all sands. The Carnegie Natural Gas Co.'s second test on the M. J Richardson farm is a gasser in the Gordon sand. In Lincoln district, the Owens Bottle & Machine Co. has a rig up for a test on the Curtis Freeland farm. In Fairmont district, the same company has the rig completed for a second test on the T. L. Thorn farm.

Drilling and Starting Tests

In Paw-Paw district, Marion County, the Owens Bottle & Machine Co. is due in the Big Injun sand at a test on the Laura A Booth farm. In the same district, the same company has shut down to repair the engine at a test on the J. P. Musgrove farm. In Fairmont district, the Bell Oil & Gas Co. has started to drill on the Curt Miller farm.

In Battelle district, Monongalia County, Benjamin Clovis & Co. have started to drill on the Elijah C. Clovis farm. In Clay district, the Dunn-Mar Gas Co. has shut down at 2,270 feet to cement cave on the Joseph Tennant farm. In Center district, Wetzel County, the Hope Construction Gas Co. is due in the Big Injun sand at a test on the Carl Balwaz farm. In McElroy district, Tyler County, the American Oil Development Co. is due in the Gordon sand at a second test on the Stephen Spencer farm.

In Grant district, Ritchie County, the Mellon Oil Co. has started to drill a test on the W. E. Conaway farm. In Union district, the Hope Natural Gas Co. is hauling tools to a location on the Lonnie Bee farm. V. B. Darby is due in the sand at a test on the J. S. Heck farm, in Walker district, Wood County. In Freeman's Creek district, Lewis County, F. G. Bish & Co. are drilling at 1,500 feet on the N. G. Moneypenny farm. In Greene district, Wetzel County, A. F. Lawrence is moving in rig timbers to a location on the E. A. Booth farm. In Meade district, Tyler County, Andrew Karl is rigging up on the David Hickman farm. In McElroy district, the American Oil & Development Co. has drilled to a depth of 2,900 feet on the Stephen Spencer farm and shut down. In McClelland district, Doddridge County, Trainer & Ash have started to drill on the Daniel Bates farm. In the same district, J. H. Pence is drilling on the Cora Smith farm.

On Laurel Creek, Walker district, Wood County, the South Penn Oil Co. is starting another test on the Daniel Wharton farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is building a rig on the Sanford Huggins farm. In Clay district, Wetzel County, the Johns Gas Co., after a fruitless fishing job on the B. W. Peters farm, is skidding the rig. In Jefferson district, Lincoln County, the Cambridge Gas Co. is rigging up on the Goose Creek Mining & Land Co.'s property. In Barboursville district, Cabell County, Zortman & Shipe are fishing for bailer at 3,325 feet on the M. E. and C. Merritt farm. In McComas district, the Commercial Gas Co. is drilling at 3,800 feet on the Charles Morrison farm.

Southeastern Ohio

Late completions in the southeastern Ohio fields are light pumpers. In the Fisher Pool, Alexander Township, Athens County, the Ohio Oil & Gas Co. has completed and shot in the Berea grit, No. 3 on the W. N. Alderman farm. It is a 10-bbl. pumper in this formation.

In the southeast quarter of Section 3, Falls Gore Township, Hocking County, the Schneider Oil & Gas Co. has drilled through the Clinton sand a test on the Jacob Schneider farm. After being shot the hole filled up 1,100 feet with fluid and is probably good for 5 bbls. a day. In the southeast quarter of Section 18, Reading Township, Perry County, the Rush Creek Oil & Gas Co.'s test on the William Love farm is a duster in the Clinton sand. In Section 6, Newton Township, Licking County, Harry Former & Co. have completed a test on the O. R. Hound farm. It produced 25 bbls. the first 24 hours after shot in the Berea.

In Lot 23, Newton Township, Licking County, the Ohio Fuel Supply Co. has a duster in the Clinton sand at a test on the Frank Dush farm. In the southeast quarter of Section 2, Independence Township, Washington County, Harris & Co.'s No. 4 on the William Yost farm is dry in the Big Injun sand.

In the southeast quarter of Section 31, Sutton Township, Meigs County, P. L. Clifton & Co. have completed in the Cow Run sand a second test on the Ernest McBride farm. It is a pumper good for 4 bbls. a day. In Lot 11, Monroe Township, Holmes County, the Arkansas Fuel Oil Co. has completed in the Clinton sand a second test on the William Miller farm. It is a gasser good for 1,000,000 feet and has a fair showing of oil. It will be shot and tested after the gas pressure subsides. In Section 24, Ludlow Township, Washington County, the Bentz Oil Co. has started to drill a test on the H. H. Holland farm.

In Section 24, Monroe Township, Holmes County, the Ohio Oil Co. has completed a second test on the C. H. Carpenter farm. It is showing for a 10 or 15-bbl. pumper in the Clinton sand. In Section 5, same township, the Empire Gas & Fuel Co.'s No. 5 on the U. S. Davenport farm is a gasser in the Clinton sand. In Section 22, Kilbuck Township, the East Ohio Gas Co. is drilling a test on the Charles Hammontree farm. In Section 12, same township, the Ohio Fuel Gas Co. has a rig up for a second test on the M. L. Pyers farm. In Hardy Township, the Empire Gas & Fuel Co. is drilling a test on the Delpha Netherow farm.

Shallow Territory

In Section 25, Homer Township, Morgan County, W. L. Little & Co. have a light pumper in the Berea grit at a test on the Riley Morris farm. In the same section, the same parties have a 3-bbl. pumper at a test on the Kasler farm.

Knox County

In Section 31, Union Township, Knox County, the Ohio Fuel Supply Co. has a 5-bbl. pumper in the Berea grit at a test on the Robert Neiderhouser farm. In Section 13, Brown Township, the East Ohio Gas & Refining Co. has a light pumper in the same formation at No. 4 on the George A. Richert farm. The same company is due in the sand at No. 13 on the H. S. Snively farm. In Union district, the Pure Oil Co. has the rig completed for a second test on the W. D. Haeton farm. In Jackson Township, Section 14, Noble County, Clyde Hutcheson and others have a light pumper in the Macksburg 800-foot sand at a test on the A. and E. Wagner farm. In Lot 14, Franklin Township, Licking County, the Detex Oil & Gas Co. is drilling No. 6 on the G. E. Cotterman farm.

Tests Drilling

In Lot 5, Salem Township, Washington County, James Frickensen and others have started to drill a test on the George Drum farm. In Lot 7, Hanover Township, Licking County, the Edward H. Everett Co. is drilling No. 6 on the Felix Montgomery farm. In Section 32, Enoch Township, Noble County, Wayne Wickens and others are drilling on the John Crock farm. In Section 6, C. D. Harper & Co. have the rig completed for a test on the Andrew Hill farm. In the same section the same parties got a duster at a second test on the Forrest Moore farm. In Section 22, Seneca Township, the Ohio Fuel Supply Co. has a rig up on the Garfield Watson farm. In Section 2, R. L. Hanlan and others have the rig completed for a second test on the Cisler farm.

Southwest Pennsylvania

One-half mile south of Swarts, Morris Township, Greene County, the Hawkins Oil & Gas Co. has completed in the 50-foot sand a test on the Hawkins heirs' farm. It is good for 3,000,000 feet of gas.

In Gilmore Township, J. I. Eddy and others completed in the 50-foot sand a test on the Charles Roberts farm and good for 1,500,000 feet. One-half mile east of Sycamore, Washington Township, Greene County, the Philadelphia Oil Co. completed a small gasser in the Bayard sand at a second test on the William Finch farm.

The southwest Pennsylvania fields reported but one completion. It is R. C. Clovis & Co.'s test on the H. C. Roberts farm in Gilmore Township, Greene County. It is a fair gasser in the Gordon sand.

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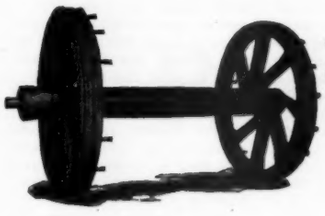
Every piece of "Ideco" equipment incorporates the combined knowledge of veteran oil men and long-experienced steel fabricators. Men in the field know the designs are most suited to their requirements. Those in the factory know exactly what is expected of their products and build accordingly.

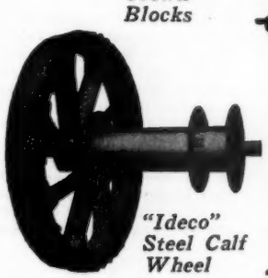
Crown Blocks, Bull Wheels, Walking Beams, Pitmans or Portable Houses of galvanized steel reach the field "ready for work." And they stay on the job longer than most drillers hope to live!

Get a line on the International "Ideco" line from the nearest branch office. Write, wire, or phone for an intelligent representative.



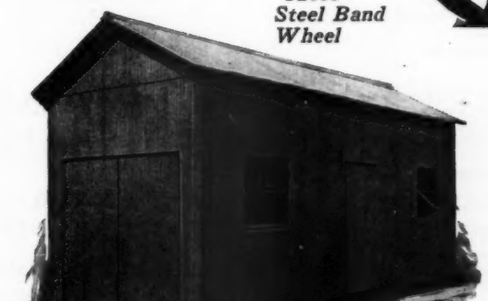
"Ideco" Steel Bull Wheel

"Ideco" Crown Blocks



"Ideco" Steel Calf Wheel

"Ideco" Steel Band Wheel



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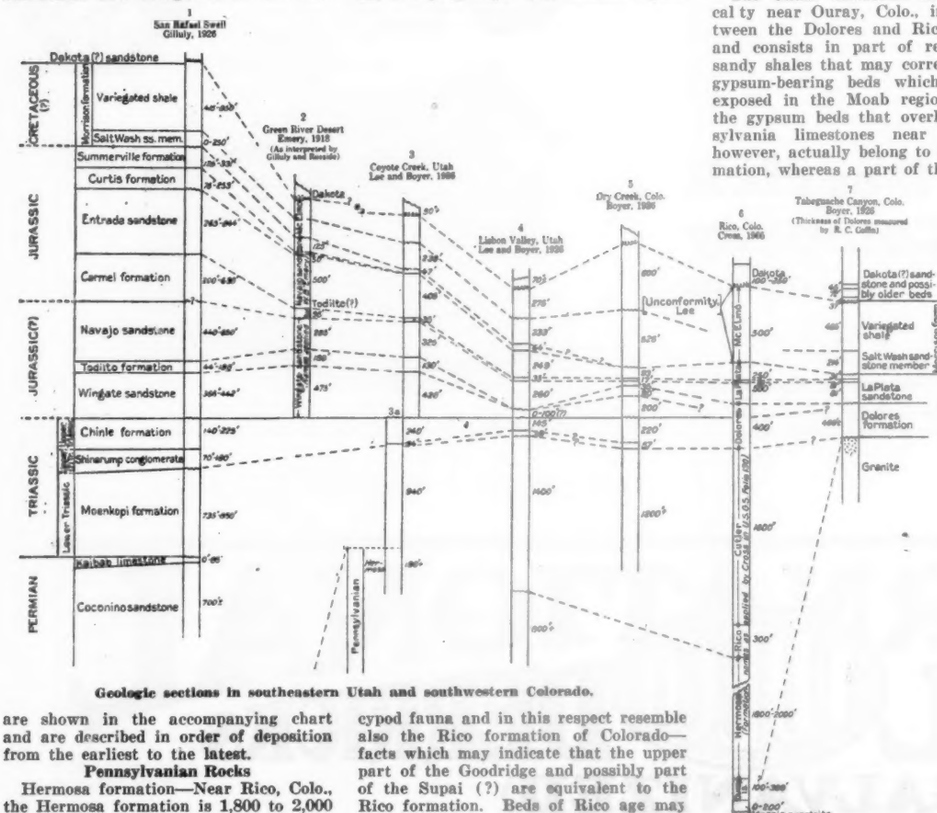
Southeastern Utah Oil Possibilities

Cane Creek Well Near Moab Stimulates Interest Also in Southwestern Colorado As Potential Producing Area

The exploratory campaign for oil carried on in 1925 in the Rocky Mountains resulted in an outstanding discovery early in December, when a well on the Cane Creek Dome, near Moab, Utah, began producing oil. This discovery suggests that in parts of southeastern Utah and southwestern Colorado notable quantities of oil may be obtained from the Pennsylvanian formation that now yields oil at Cane Creek and possibly from younger rocks in which oil may have accumulated by upward migration. Because of these possibilities it seems worth while to summarize briefly the results of a reconnaissance study of this region made during the summer of 1925, by W. T. Lee and W. W. Boyer, of the United States Geological Survey, and also the results of an examination of the San Rafael Swell by James Gilluly, of the survey.

From information gathered by these field studies and from data already made available by previous geologic investigations, it seems probable that conditions similar to those recently found near Moab exist at other points in Utah south of the Denver & Rio Grande Western Railroad and east of Green River (or east of the 110th meridian) and also in the adjacent part of Colorado south of the Uncompahgre Plateau.

The rocks exposed in southeastern Utah and southwestern Colorado that are of present interest to the oil producer range in age from Pennsylvanian to early Upper Cretaceous. These rocks have been reviewed and described by Cross in Volume 15 of the Journal of Geology, and a more recent and detailed description of the formations has been given by Coffin in Bulletin 16 of the Colorado Geological Survey. The facts noted by Lee and Boyer confirm in part this earlier work, although they suggest a need for the modification of some interpretations. The formations now recognized in the area are shown in the accompanying chart and are described in order of deposition from the earliest to the latest.



Geologic sections in southeastern Utah and southwestern Colorado.

Pennsylvanian Rocks

Hermosa formation—Near Rico, Colo., the Hermosa formation is 1,800 to 2,000 feet thick. Its lower part consists of black bituminous shale and limestone, and these beds are overlain by 30 feet of gypsum and 250 feet of rocks which are nowhere exposed to view but which may contain soluble materials such as rock salt. A considerable thickness of salt, gypsum, black shale, and limestone was penetrated by the lower part of the Cane Creek well, and beds of salt and gypsum that contain petroliferous limestone are exposed in the Paradox Valley and other anticlines or have been penetrated by wells drilled on these folds. About 3,000 feet of interbedded salt, gypsum and bituminous shale are present beneath Paradox Valley, but this apparent thickness may be local and abnormal and may have been induced by flowage of these plastic beds. Some potash occurs in the salt beds of the region, and the possibility that commercially valuable quantities of potash may be present warrants the collection and testing of samples of the salt-bearing strata.

Beds of Pennsylvanian age yield the oil found near Moab and are tentatively regarded as equivalent to part or all of the Hermosa formation of southwestern Colorado and to the lower part of the Goodridge formation of the San Juan Valley, as described by Woodruff in Bulletin 471 of the Geological Survey.

Permian Rocks

Rico and Supai (?) formations.—At its type locality in southwestern Colorado the Rico formation, of Permian (?) age, consists of 300 feet of reddish arkosic sandstones, together with some shales, conglomerates and thin limestones, and resembles in thickness and lithology the 380 feet of strata that underlies the Coconino sandstone in the San Juan Valley, which is tentatively referred by Miser to the Supai formation. In the upper part of the Goodridge formation predominantly red strata, not greatly unlike the overlying Supai (?), contain a pelecypod fauna and in this respect resemble also the Rico formation of Colorado—facts which may indicate that the upper part of the Goodridge and possibly part of the Supai (?) are equivalent to the Rico formation. Beds of Rico age may be present under cover in many places in southwestern Colorado and southwestern Utah, although apparently they eroded from at least the more pronounced uplifts, such as the Uncompahgre Plateau.

Coconino sandstone.—The Coconino sandstone, of Permian age, is a conspicuous formation west and north of the San Juan oil field, but it thins out eastward and is absent at Bluff and Moab. In contrast with this decrease in thickness, the sandstone that forms the natural bridges southwest of Monticello and is possibly equivalent to the Conconino is more than 1,000 feet thick near the bridges and is about 1,000 feet thick near the mouth of Green River.

Triassic Rocks

The rocks of unquestioned Triassic age in the San Juan River region of southeastern Utah comprise, in ascending order, the Moenkopi formation, Shinarump conglomerate and Chinle formation. Beds of variable appearance and composition that belong to the lower part of the red-bed series lie unconformably on the Pennsylvanian rocks that are exposed near Moab. These beds are assigned by Cross and Coffin to the Cutler and Dolores formations. The upper part of the conglomeratic red beds, which constitutes the Dolores formation as the term was applied by Cross near Telluride, is correlated confidently with the Chinle formation of southern Utah, and the contact of this unit with the overlying Wingate sandstone, where that formation is present, furnishes one of the most convenient key horizons for stratigraphic tracing available in the area here described. The correlation of the lower part of these conglomeratic red beds, in which petrified wood and fossil bones and teeth are commonly found, is, however, uncertain, though it may correspond to the Shinarump conglomerate, as suggested by Cross.

The Cutler formation at its type locality near Ouray, Colo., intervenes between the Dolores and Rico formations and consists in part of red calcareous sandy shales that may correspond to the gypsum-bearing beds which are locally exposed in the Moab region. Some of the gypsum beds that overlie the Pennsylvania limestones near Moab may, however, actually belong to the Rico formation, whereas a part of them, at least, are believed to be referable to the Triassic Moenkopi formation. Possibly the marine gypsum-bearing Moenkopi of southern Utah may represent the seaward equivalents of the Cutler conglomerates.

The beds between the Chinle and Hermosa (?) formations of southwestern Utah are markedly variable in thickness and may be divisible into several formations, one or more of which may have been extensively eroded during pre-Chinle time. Near the road from Valley City to Moab, just north of Colorado River, the interval between the Chinle and the Hermosa (?) is occupied by 950 feet of conglomerates with which are interbedded some shales, sandstones, and flinty limestones. The lowest of these conglomerate beds contains fossil wood which resembles that of the Chinle. In Lisbon Valley similar beds are 1,400 feet thick. In Salt Valley, 8 miles north of Castleton, and in Paradox Valley, Colo., partial measurements show respectively 1,300 and 1,200 feet of conglomeratic beds beneath a bed that appears to be the base of the Chinle, and the conglomerates in Paradox Valley contain fragments of fossil wood and fossil teeth similar to those in the Chinle.

The beds just described from the lower part of the Dolores and Cutler beds as mapped in Colorado by Coffin and were tentatively referred to the Permian by Cross. They are designated Carboniferous on the geologic map of Utah published with the Geological Survey's Professional Paper 111, although fossil bones, teeth, and wood since found in them suggest that part or all of them should be referred to the Triassic.

Jurassic (?) Rocks

The rocks now tentatively assigned to the Jurassic and believed by Lee and Boyer to be undoubtedly Jurassic include in ascending order the Wingate sandstone, the Todilto formation and the Navajo sandstone. These formations have not yielded fossils, but they compose a related group of beds that is overlain by beds which contain a marine fauna of Upper Jurassic age.

Wingate sandstone.—The Wingate is a great cliff-making sandstone, and its color suggested the name Vermilion Cliff sandstone, which has been applied to it by some geologists. It lies unconformably on the Chinle formation and is the oldest of the probable Jurassic formations represented in this region. In some places, where the Todilto is not recognized, the Wingate and the overlying Navajo sandstone are not clearly separable. Over wide areas, however, where the two are distinct, the Wingate sandstone montains a relatively constant thickness. It is cross-bedded but less conspicuously so than the Navajo, and it usually breaks

(Continued on Page 110)

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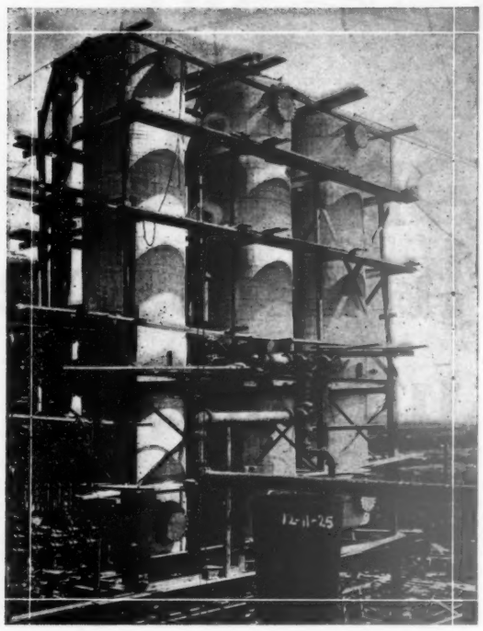

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51 MOST PRODUCTIVE POOLS SHOW DECLINE IN TOTAL PRODUCTION

By James McIntyre

That most of the prominent pools of the United States are declining to a settled production stage is made evident by a study of production figures relating to the 48 pools in the country which produced an average of 10,000 bbls. a day or over in 1925. Of the 48, 3 have dropped out of the 10,000-bbl. class, and 32 were producing less oil on April 1 of this year than their daily average for last year. The combined decrease in production of the 32 declining pools on April 1 was 232,920 bbls. a day as compared with their last year's daily average.

Sixteen of the 48 pools show an increase in production, some a very considerable increase, like Garber, Okla.; Wewoka, Okla., and Ventura-Newhall, Calif., total increase of the 16 being 71,895 bbls.

On April 1 of this year there were 51 pools in the country producing 10,000 bbls. a day or more. The six new pools in the list, Sunburst, Mont.; Davenport, Okla.; Braman, Okla. (including Braman Townsite and North Braman); Seely, Kans.; Yale-Ingalls, Okla., and Vernon, Wilbarger County, Texas, were producing on April 1 a total of 89,775 bbls., while their combined daily average for 1925 was 44,512 bbls., indicating a gain of 45,263 bbls. a day.

The three pools which dropped out of the 10,000-bbl. class were Wortham, Tex., South Liberty, Tex., and Rainbow Bend, Kans.

The 48 10,000-bbl. pools of last year, together with the 6 new pools in the list, showed an average daily production last year of 1,565,983 bbls., or 75 per cent of the total for the country, while on April 1 of this year the same 54 pools produced 1,450,185 bbls. or 73 per cent of the estimated total production of the country on that day. The totals indicate a decline of 115,798 bbls. a day.

Only 22 pools in the list of 54 show an increase on April 1 over their average for last year, these being Long Beach, Calif, an increase of 1,436 bbls.; Inglewood, Calif, 230 bbls.; Huntington Beach, Calif., 973 bbls.; Ventura-Newhall, Calif., 10,021 bbls.; Big Lake, Tex., 5,552 bbls.; Rosecrans, Calif., 600 bbls.; Garber, Okla., 13,495 bbls.; Orange, Tex., 1,920 bbls.; South Liberty, Tex., 5,705 bbls.; Teeter-Pixley, Kans., 6,766 bbls.; Wewoka, Okla., 20,516 bbls.; Cushing-Shamrock, Okla., 115 bbls.; Fullerton, Calif., 2,947 bbls.; Richfield, Calif., 1,294 bbls.; Mounds-Beggs, Okla., 214 bbls.; Yale-Ingalls, Okla., 8,610 bbls.; Bradford-Allegany, Pa.-N. Y., 75 bbls.; Davenport, Okla., 11,622 bbls.; Seely, Kans., 1,507 bbls.; Vernon, Tex., 5,994 bbls.; Sunburst, Mont., 11,567 bbls.; Braman, Okla., 4,963 bbls.; total increase, 116,122 bbls. That looks like a very considerable increase, but it is more than offset by the fact that the 32 other pools have declined 232,920 bbls. a day in their total production on April 1 as against their total average for last year.

The following table tells the story in figures:

LEADING POOLS OF THE UNITED STATES
Their Average Daily Production in 1925 and Their Production as of April 1, 1925

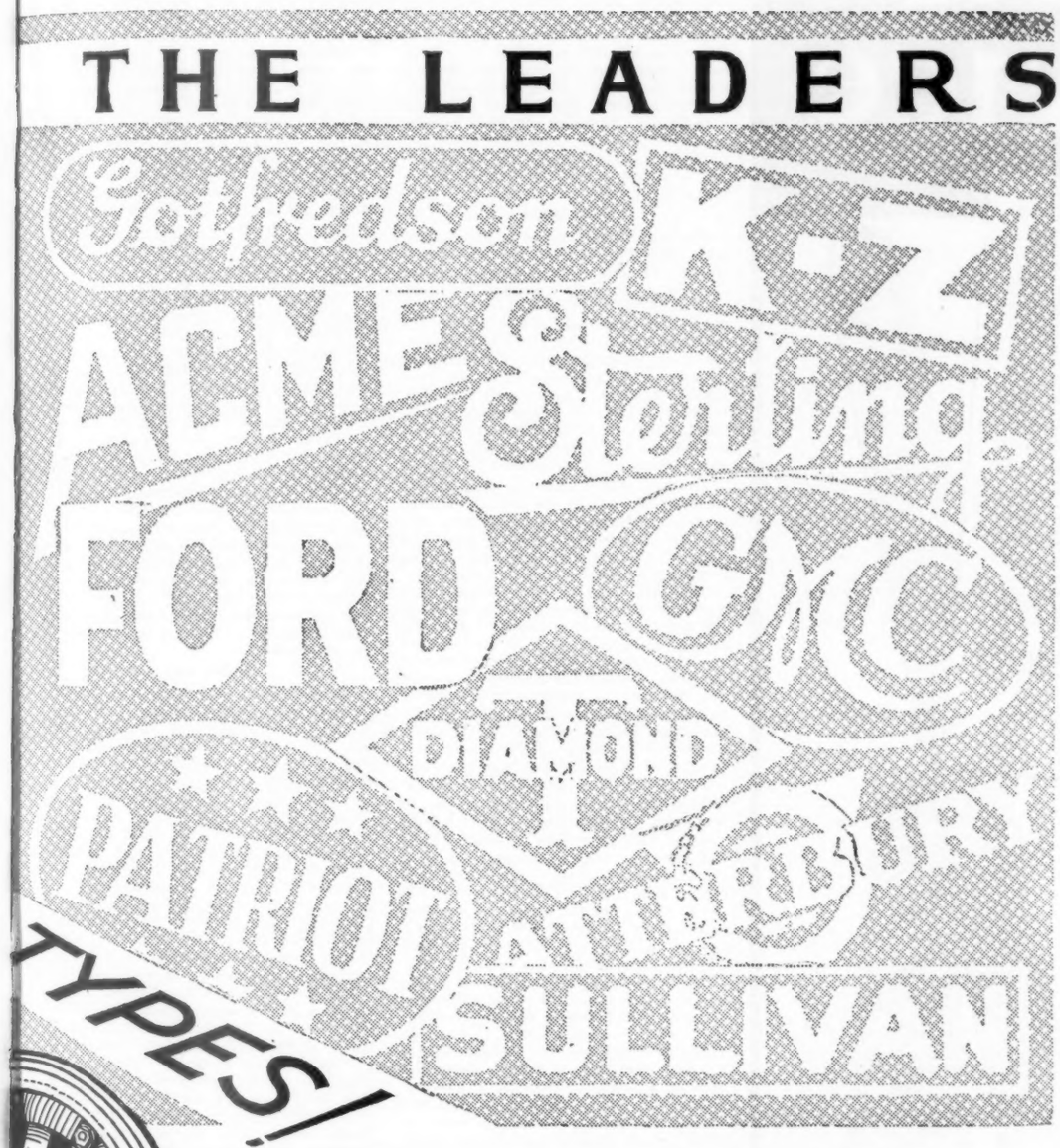
Field—	Average Daily Prod. '25	Prod. Apr. 1, '26
Smackover, Ark. (heavy)	175,025	134,250
Long Beach, Calif.	110,604	111,500
Midway-Sunset, Calif.	101,160	92,300
Tonkawa, Okla.	62,251	42,025
Salt Creek, Wyo.	59,397	51,900
Burbank, Okla.	54,670	43,350
Santa Fe Springs, Calif.	51,971	49,500
Inglewood, Calif.	50,270	50,500
Powell, Tex.	47,175	31,700
Wortham, Tex.	43,901	9,800
Huntington Beach, Calif.	43,527	44,500
Dominguez, Calif.	36,517	20,500
Archer, Tex.	36,313	33,300
Torrance, Calif.	36,280	28,000
Elk Hills, Calif.	32,798	32,275
Cromwell, Okla.	31,982	18,900
Smackover, Ark. (light)	27,648	17,625
Bristow, Okla.	26,158	25,500
Luling, Tex.	25,403	22,050
Ventura-Newhall, Calif.	25,379	35,400
Big Lake, Tex.	23,998	29,550
Cushing-Shamrock, Okla.	21,985	22,200
Papoose, Okla.	21,377	13,175
Coalinga, Calif.	21,236	20,525
Garber, Okla.	20,505	44,000
Hull, Tex.	19,991	18,875
Rosecrans, Calif.	19,900	20,500
Coyote, Calif.	19,562	16,575
Montebello, Calif.	18,748	17,775
Mexia, Tex.	18,439	13,600
Electra, Tex.	17,246	17,100
Kern River, Calif.	16,169	12,300
Bradford-Allegany, Pa., N. Y.	15,925	16,000
Healdton, Okla.	15,277	15,100
Hewitt, Okla.	14,588	12,200
Burkburnett, Tex.	14,133	12,600
Orange, Tex.	13,540	15,460
Haynesville, La.	13,194	10,450
South Liberty, Tex.	12,805	7,100
Teeter-Pixley, Kans.	12,534	19,300
Wewoka, Okla.	12,284	33,800
Fullerton, Calif.	12,278	15,125
Graham-Fox, Okla.	12,171	12,000
Richfield, Calif.	11,831	13,125
West Columbia, Tex.	11,462	10,350
Caddo, La.	11,448	10,800
Mounds-Beggs, Okla.	11,036	11,250
Rainbow Bend, Kans.	10,820	4,500
Sunburst, Mont.	5,933	17,500
Davenport, Okla.	8,578	20,200
Braman, Okla.	8,037	13,000
Seely, Kans.	7,993	10,500
Yale-Ingalls, Okla.	4,890	13,500
Vernon, Tex.	9,081	15,075
Total	1,565,983	1,450,185
Decrease April 1, 1926		115,798

CALIFORNIA FIELDS

(Continued from Page 64)

formances, it is needless to say that wells can be drilled into completion within two months from the date of spud. This is particularly interesting because the field might reach unusual proportions within a short period of time, if any large amount of drilling is undertaken.

The electorate of Huntington Beach will decide today whether the drilling re-



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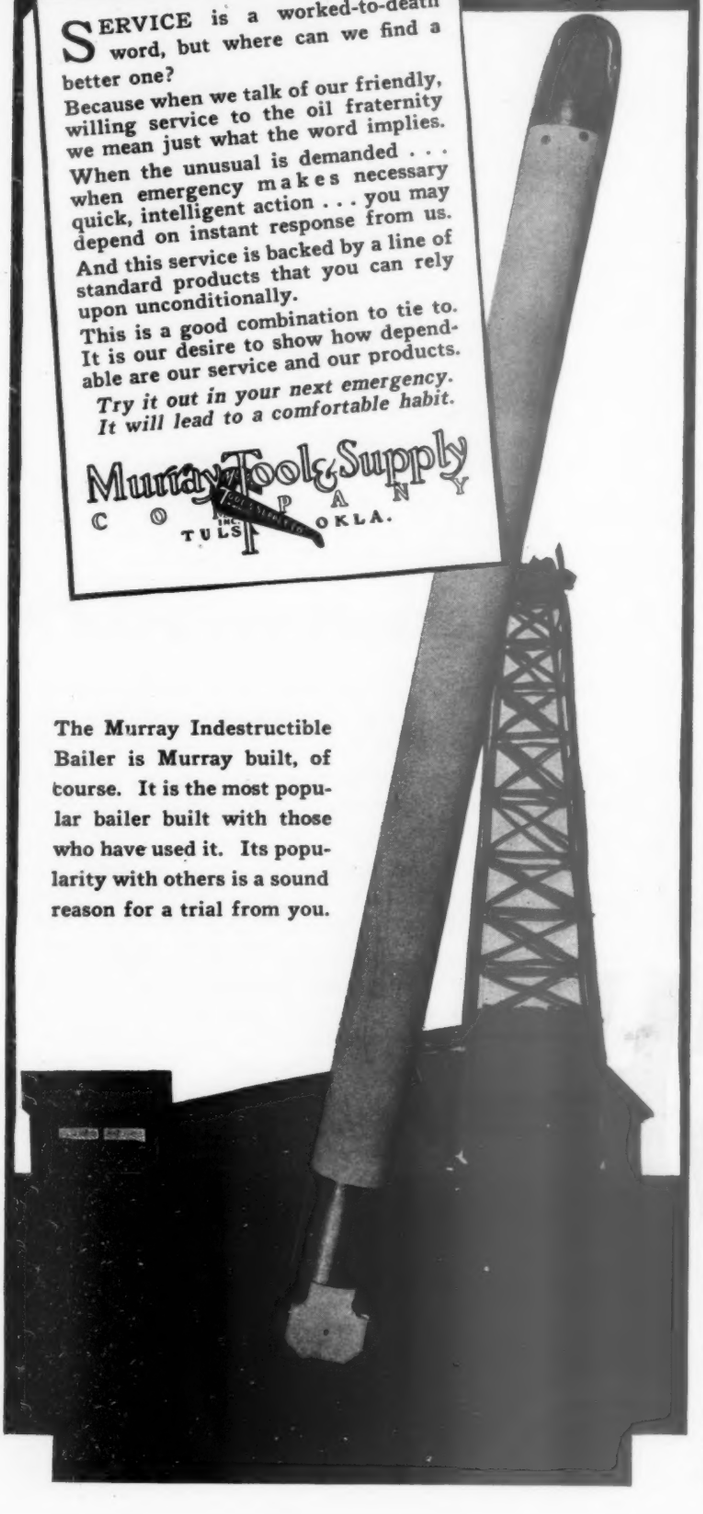

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strictions affecting an area six square blocks along the ocean front in the western part of the city will be lifted in order to permit development by some 15 or 20 independent operators. The area consists of several hundred lots, most of which have been grouped into community leases but, notwithstanding this consolidation, a large number of new wells will be spudded in if the restrictions are lifted. Considerable rivalry exists between the two factions and for this reason it is a little hard to determine just what way the vote will swing. Those holding leases and owning the property affected will naturally vote in the affirmative, but one wonders if there will not be some petty jealousies which may offset these votes. The subject is a live one at Huntington Beach and a big vote is anticipated.

Long Beach

The number of pumpers which have been finished in the Long Beach extension during the past several weeks indicates that the period of flush production is over and, although we can anticipate the completion of additional wells during the next 30 days, most of them will be comparatively small pumpers. Production in the extension is beginning to fall off quite rapidly and it is exceedingly doubtful, notwithstanding the comparatively inexpensive cost of drilling, running around $35,000 per well, whether any of the holes now drilling will ever pay out.

A recent check indicates that a considerable number of the drilling projects in the extension are held up with mechanical trouble and in many cases the future production will hardly pay for the successful completion of these fishing jobs. Around the edge of the extension the maximum penetration is not in excess of 150 feet and for this reason it does not look as though the wells will experience any considerable period of productivity. As a rule producers in this area are quite wet and carry a water content ranging anywhere from 2 to 50 per cent. There are about 50 rigs standing which never got beyond this stage, and it is thought a number of them will be dismantled and re-erected at Huntington Beach if the drilling restrictions now prevailing in that area are lifted next week.

There were nine wells finished at Long Beach during the week, but their total initial production only aggregated 1,113 bbls. With but one exception, the Repetto Hills Oil Co.'s No. 5 Cerritos, which came in doing 198 bbls. of 21.6 gravity oil daily from 4,455 feet, all were comparatively small pumpers. C. W. Camp finished his initial producer in this find and, because of the small production obtained, will probably refrain from further work. Camp's No. 1 Cerritos, drilled to 4,425 feet and finished with a 4½-inch liner, was a pumper doing 106 bbls. of 21.7 gravity oil. A. J. Delaney finished two new producers, Nos. 24 and 25, but the latter, put on the beam at 4,425 feet, is making considerable water and will probably require another cement job. No. 24 Cerritos, however, was a satisfactory completion and is pumping 96 bbls. of 21.5 gravity oil from 4,360 feet. Delaney has reduced his drilling projects to a minimum and is running but five strings of tools.

The Julian Petroleum Corp.'s No. 1 Barnes was good for 100 bbls. of 21.4 gravity oil daily when put on the beam at 4,380 feet. The company has also finished No. 1 Patton and it will go on the pump early next week. E. J. Miley's No. 3 Cerritos was a little better than the average for the week, as it pumped 130 bbls. of clean 21.6 gravity oil from 4,400 feet. Miley is still working with No. 1 Cerritos, his initial completion in this area, which later developed water trouble, but he has suspended work on No. 4 at 560 feet and it looks as though he is doubtful whether it would result in commercial production.

The Transport Oil Co. got a 100-bbl. pumper when its No. 1 Cerritos was put on the beam at 4,410 feet after being finished with a 4½-inch liner. Breslin-Woodward & Sheedy finished two new wells but only one was actually put on production. This was No. 2 Cerritos, drilled to 4,440 feet and finished with a 4½-inch liner. The maximum pumping was 126 bbls. of 21.4 gravity oil, which registered a cut of 3 per cent. No. 4 Cerritos was drilled to 4,440 feet and will be put on the pump within a few days. J. M. Cooper's No. 3 Cerritos, drilled to 4,450 feet and finished with a 4½-inch perforated liner, was the smallest well brought in. The total production during the first 24 hours was 76 bbls. of 21.4 gravity oil. The California Petroleum is making preparations to bring in two new wells during the coming week, but they will probably both be small pumpers.

The Ibbetson Oil Co.'s No. 6 Cerritos was good for 181 bbls. of 21.6 gravity oil from 4,440 feet, the hole being finished with a 4¾-inch perforated liner. E. L. Craigen has been endeavoring to swab in his No. 3 Cerritos from 4,455 feet, but it does not seem to have sufficient gas pressure to result in a natural flow and it will probably have to be put on the pump. Kiesau & Son are also experiencing difficulty because of insufficient gas pressure and they will probably also be obliged to install pumping equipment. The United Oil Co. has taken over J. E. O'Donnell's No. 51 Cerritos, an outpost in the northern part of the field, and will resume work at 5,080 feet and will carry it down for a conclusive deep test. The United is also drilling a deep project on the Taylor property, but has declined to release any information as to its exact status.

A tally of work at the end of the week shows very little change from the comparable figures at the close of the preceding seven-day period, but the outlook is somewhat less favorable. Several operators have temporarily suspended work waiting on field developments and it is quite possible the temporary orders may later become permanent, unless a big improvement is noted.

Inglewood

The Petroleum Securities made a preliminary test of No. 9 Cone, which developed water in the deep sand at 3,000 feet, but it does not look as though the plug set in bottom has proven effective. The Standard Oil Co. has not yet started any new projects on the Baldwin lease, formerly held by the Pacific, and will probably not do so until some idea can be formed of the amount of deep drilling which the company may be obliged to undertake to prevent undue drainage of its various properties by other operators. The company is drilling two wells on Los Angeles Investment Lease No. 1, a similar number on the Vickers property and one on the Stocker lease.

The Union finished an excellent flowing well in the Dominguez Field early this week by bringing in No. 10 Callender doing 1,170 bbls. of clean 30.6 gravity oil daily from 4,437 feet. The completion of this new producer indicates that the Union and Shell can build up a good production in this field if it was found neccssary to do so. They are, however, going ahead slowly and conserving their resources for a more opportune time. Each is running about three strings of tools and it is not believed any unusual amount of work will be done during the coming summer.

One small completion sums up operations in the Torrance Field as far as the Shell Oil Co.'s work goes and, while the Chanslor-Canfield Midway Oil Co. finished No. 29 Del Amo, it was not actually put on production. The Shell's new acquisition, No. 11 Redondo, drilled to 3,610 feet and finished with a 6¼-inch oil string, was good for 100 bbls. of 16.1 gravity oil cutting approximately 8 per cent. The two latest spuds in this field, No. 1 Hogan of the Petroleum Securities and No. 2 Torrance of the R. & D. Oil Co., are making fairly good footage. The Fullerton Oil Co.'s No. 6 Waddell has just passed the 3,000-foot level and it should be listed for completion some time within 30 days.

Santa Fe Springs

The California Petroleum's No. 2-B Wickman at Santa Fe Springs was the first completion listed in this area for several weeks, and although it was only a comparatively small well, it was, nevertheless, commercially productive because

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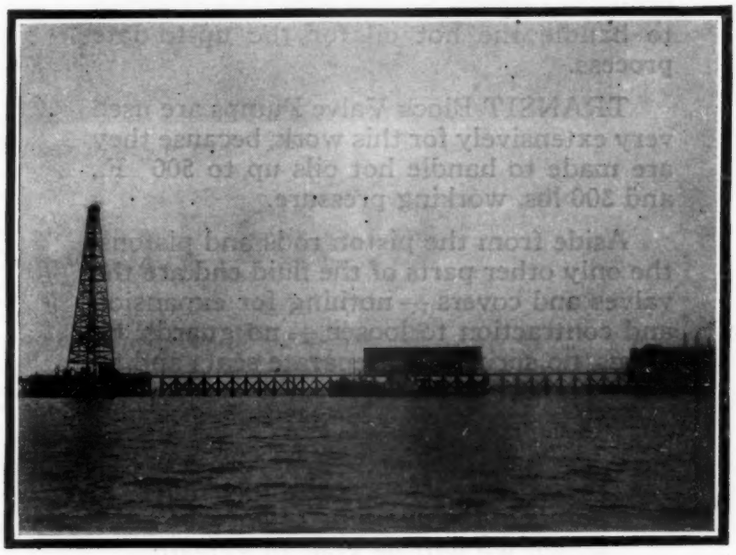

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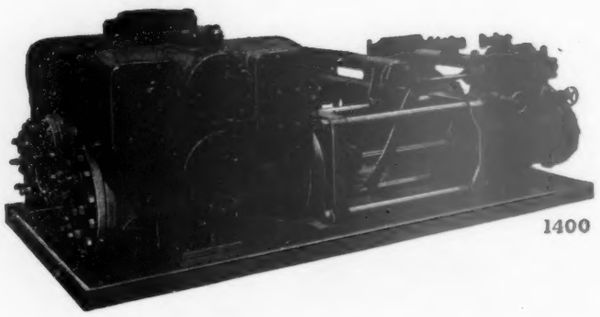

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of the quality of the oil produced. It was drilled to 3,865 feet and finished in the Bell zone doing 200 bbls. of 29.6 gravity oil daily. The General Petroleum has staked a location for No. 20 Santa Fe but will probably not get under way for two or three weeks. The Union is not engaging in any new work in this field but has three cleanouts on its hands, No. 21 Bell, No. 7 Howard, and No. 5 Alexander, all Meyer zone producers. The Petroleum Securities and the Pan American made rather slow footage in their respective drillers at Rideout Heights, due to the unusually hard formation encountered. Both wells have logged boulders for several hundred feet but this has now shaded off into a hard conglomerate, which is at present retarding progress.

There were no developments of particular interest in the Montebello Field, although it looks as though another producer will be added within a short time. This is No. 11 Monterey of the St. Helens Petroleum, which looks fairly promising. The Union is putting the finishing touches on the rig for No. 28 La Merced, but spud will probably not be made for 10 days. The Standard, with two drillers on the Baldwin property and one on the Temple, Howard Smith and Harvey leases, is doing the largest amount of work in this field.

Fullerton

The Fullerton Oil Co.'s No. 194A, which was scheduled to be the Fullerton Field's next big well, proved quite a disappointment when given a test at 5,398 feet. It was exceedingly wet and, although it only showed a small amount of oil, it may do better when a satisfactory shut off has been effected. The Shell spudded in one new well, No. 11 Orange, in this field, and has rigs up for Nos. 12 and 13 on the same property. The company's drilling chart, in addition to the work being done on the Orange lease, shows a driller, No. 4 Fisher, and a rig standing for No. 5 Pico. The Union is running five strings of tools at Fullerton, three on the Stearns lease and two on the Olinda property, the latter holes being, strictly speaking, wildcats. Neither No. 1 at 3,570 feet nor No. 2 at 2,756 feet, has yet shown any encouragement to date. The three drillers on the Stearns lease are in proven territory and should, barring mechanical trouble, eventually come into production.

The General Petroleum has finally got under way with No. 6 Stern at Richfield and now has two drillers in that area, the other being No. 7 Thompson rotating ahead in a hard conglomerate at 1,834 feet. The California Petroleum put No. 18 Yarnell on a production test and, although it made 220 bbls. during the first eight hours, the oil is cutting approximately 50 per cent water. No. 19 is being rigged up but it will probably not be spudded in until No. 18 is successfully finished. The company's No. 11 Richfield Consolidated in this area is going ahead in a hard sand at 3,218 feet.

The Marland's No. 1 Bixby at Seal Beach, which is being carried on down for a deep test in this area, was reported at 5,054 feet early this week. The predominating formation is a gray sand streaked at infrequent intervals with oil sand. This hole cannot by any means be condemned so far as deep production is concerned as the first zone was not picked up until after the 4,500-foot level was passed. No. 4 Bryant of the Shell, midway between its No. 2 Bryant and No. 1 Bixby of the Marland, passed through the Bryant zone and is drilling ahead in a brown shale at 4,719 feet.

Southern California Wildcats

None of the various test wells being drilled in southern California showed any indication during the past week of resulting in production and the chief development among wildcatters was the starting of several new tests. The Barnsdall recently leased considerable wildcat acreage in Avacado Heights, northeast of Rideout Heights, and will probably start work on a test well within a short time. The properties acquired include the Pelaconi ranch and Cross Land Co.'s holdings leased at one time by the Shell. This company drilled a test on the latter acreage to about 3,620 feet, but the hole was eventually abandoned as a duster. The Shell's test was by no means conclusive because of the comparatively shallow depth at which it was stopped, and for this reason the outcome of this new wildcat will be watched with considerable interest. The Barnsdall's holdings certainly warrant a test as this acreage is perhaps one of the choicest pieces of wildcat land available for prospecting.

Several years ago the Standard drilled two or three deep wildcats on the San Fernando Mission property in the San Fernando Valley and, although slight showings were reported in one instance, the company abandoned these holes as dusters. The company is, however, apparently unsatisfied with work in this area and will haul in material for No. 1 Universal, a wildcat approximately 5 miles south of the city of San Fernando. Rig construction should get under way within a few days and actual spud made within two weeks.

The Umpire Petroleum started erecting a rig for a new wildcat to be drilled on Alamitos Heights, about midway between Long Beach and Seal Beach, but it is unknown just when spud will be made, as the company's lease of 75 acres lies within the city of Long Beach and is in territory in which drilling is restricted. The outlook is considered favorable, however, for the lifting of the restrictions by the Long Beach City Council within a few weeks. The location of the Umpire's new well is particularly interesting because the Standard drilled three dusters within a radius of a mile, all carried down below 5,500 feet before being abandoned. For this reason the potential field is unusually small in area.

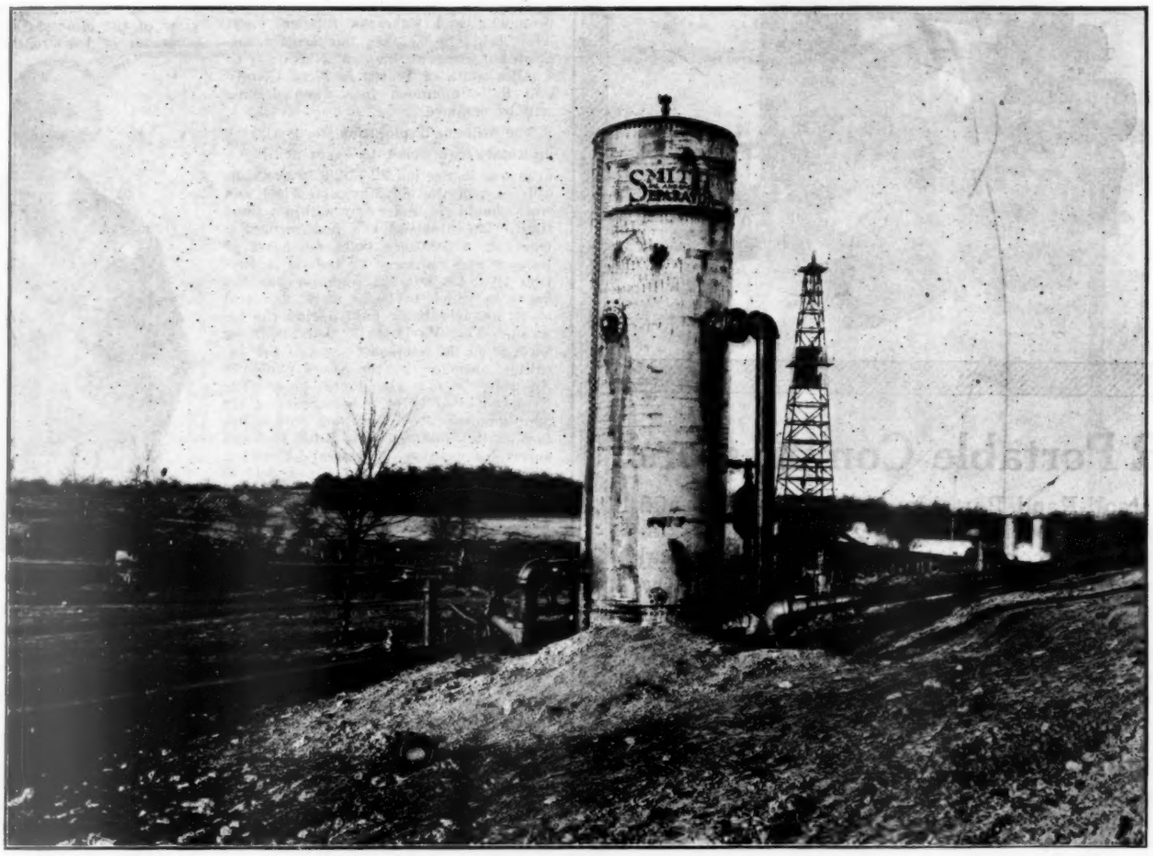
George W. Johnson has just spudded in his wildcat in the Manhattan-Hermosa Beach area and this test should prove of unusual interest within five or six weeks, at which time it should reach the 4,000-foot level. The Bardeen well, which has been bailing water carrying a little scum of oil from around 4,400 feet, is about a quarter of a mile removed from Johnson's new test. The Julian Petroleum, Superior and Standard have held acreage in this vicinity for some time but will undoubtedly await the outcome of the work being done by Bardeen and Johnson. The Associated recently acquired a 13-acre tract just north of Johnson's test and will, it is reported, be obliged under the terms of the lease to start work within 90 days. The Milham Exploration Co. has just passed the 4,100-foot level in its second Playa del Rey test but nothing of any consequence has yet been picked up and the outlook is not any too encouraging.

Operators were somewhat surprised early this week to learn of the resumption of work by the Union Oil Co. on its Saugus wildcat which has been suspended for several months at 2,970 feet. This wildcat picked up the usual shallow showings found in this area but the company does not anticipate commercial production above 3,500 feet. The Milham's No. 2 Conroy in Section 11-4-16 is rotating ahead in a hard sand at 3,968 feet. The Marland apparently secured a satisfactory water shutoff in No. 1 Wickham, Section 32-5-17, at 2,717 feet and drilling should be resumed within a few days.

The Superior Oil Co. took over the Russell Petroleum's No. 1 Joughin, about 6 miles north of Chatsworth, a week or 10 days ago and was prepared to drill out but the unusual heavy rain during the past week made the roads impassable and work has been temporarily held up. The Marland's chances of opening up a new field at Hyde Park are not getting any better with each additional foot of hole made and, since this wildcat is already down over 4,500 feet, the outlook is rather unfavorable. The Union company's No. 1 McNally at La Mirada, which was listed as a duster by many before the hole was spudded, has yet to pick up its first showing of importance. It is at present rotating ahead in a blue shale at 4,545 feet.

Northern California Wildcats

John K. Porter has just secured a lease on an additional 160 acres in the



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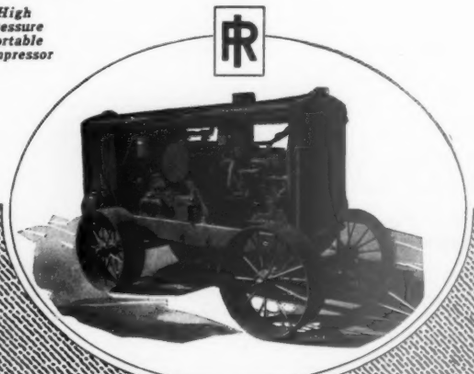

Mount Poso Creek district, Section 4-28-27, on a one-sixth royalty basis but no immediate work is contemplated. Porter and the Shell have been prospecting this area for more than a year, the two holding in excess of 10,000 acres. So far neither has been successful in developing production but the area looks rather promising and warrants further work. The Main Oil Co. has temporarily suspended drilling on its two wildcats 3 or 4 miles south of Wasco in Kern County and it is unknown just when drilling will be resumed.

The Milham Exploration Co. is rigging up rotary equipment to begin drilling a deep test in Section 32-11-23, in the foothills east of the old Maricopa Field and work should get under way within a short time. The Marland has just secured a lease on a 160-acre tract northeast of Famosa and southeast of Delana in Section 10-26-26, but the company has five years in which to begin work, a rental of $2 an acre being paid during the interim. The Marland is also acquiring acreage on the northeast slope of the Jacalitos anticline in the vicinity of the Snowolene's old abandoned hole. The Fresno United Oil Co. is erecting a rig approximately 1,000 feet southeast of its former deep test drilled to 5,400 feet and suspended because of water difficulties. The prospect of developing a new field in this area is quite favorable but it does not look as though the property of the Fresno United will prove productive.

The Eureka Oil Co. has just spudded in its first hole near the city of Eureka on a 4,000-acre lease but it is unknown just how deep the company expects to go. There has been considerable leasing of prospective oil and gas land in the Flournoy district in southwestern Tehama County and, although early work has been promised, nothing is known as to the exact date when work will get under way. The Associated drilled a test in the Kerman area, Section 35-13-16, several months ago and suspended work at 5,735 feet but has never abandoned the project. Reports have just come in that the company has bought an additional 5,000 acres in fee. The price paid is considerably in excess of that offered for land for agricultural purposes and this has led to some comment as to what the company found in the original hole. This general area looks quite promising and warrants additional work.

Recent completions in the Ventura Avenue Field tend to indicate that this district will be larger in extent than heretofore believed. Completion of the Associated's No. 101 Lloyd, for instance, extended the field approximately a mile eastward and the finishing of this hole has resulted in the starting of another by the Associated on the Ventura Land & Water Co.'s property which adjoins the Lloyd acreage on the east. The Associated's new well, which is an outpost, is only two locations east of No. 101 Lloyd and stands an excellent chance of coming into production. In the northern part of the Ventura Avenue Field the Bolsa Chica's No. 1 Hartman is showing up unusually well and this hole, although it is still classified as an outpost, should result in commercial production.

The Petroleum Securities has another prospective producer in No. 1 Willett, a south line well, but it is not yet deep enough to pick up the pay. The latest entrant into this area is the Marland, which company contemplates a wildcat midway between the Shell's productive Taylor lease in the western part of the field and the Chanslor-Canfield Midway Oil Co.'s wildcat, No. 1 Hobson. The Marland's new test will be located on the Taylor ranch, on which the Associated drilled at 5,400-foot duster about three years ago. The new well is somewhat more favorably located and both this test and No. 1 Hobson are being drilled on the assumption that there is an uplift of the Ventura Avenue Field at this point. The Milham Exploration Co.'s No. 1 Sexton, somewhat over a mile east of the Associated's No. 101 Lloyd, is going ahead slowly but it looks as though this test is too far removed to be on the Ventura Avenue anticline.

H. W. Bell Accepts Position With Pure Oil Co. at Columbus

SHREVEPORT, La., April 10.—H. W. Bell, who resigned April 1 as supervisor of the minerals division of the department of conservation for the State

H. W. Bell

of Louisiana to accept a position as petroleum engineer for the Pure Oil Co., has spent the greater part of his life since graduation from Stanford University, to the problems of the oil industry.

He graduated from the school of geology and mineral mining with the class of 1906. He spent the next few years connected with mining companies in Nevada. For seven years he was attached to the staff of the General Petroleum Co. By coincidence his next three advances were spaced into intervals of three years each. From the General Petroleum Co. he went to the California State Mining Bureau. Three years later found him identified with the Bureau of Mines with headquarters in Dallas, Tex., and during the past three years he has been attached to the Louisiana conservation department where his work has attracted much attention.

Declaring the resignation of Mr. Bell a loss to the State in its effort to conserve its vast gas and oil resources, Dr. V. K. Irion, head of the Louisiana department said: "In the Monroe Gas Field carbon matter, his work has been of inestimable value. He knows the field probably better than anyone else in the State."

Mr. Bell was active in changing the conservation laws of Louisiana. While with the Bureau of Mines, Mr. Bell, with R. A. Cattell, now attached to the helium division of the bureau, made the first exhaustive report of the Monroe Field. It was published in bulletin No. 9 issued by the State. With J. B. Kerr, he made a report on the Burkburnett Field and was aided by Mr. Kerr in a report on El Dorado. Later Mr. Bell and B. S. Haury issued a report on east Smackover, and Mr. Bell wrote reports on portions of Mexia, Tex.

Mr. Bell left Shreveport, La., April 5, for Columbus, Ohio, to assume his duties with the Pure Oil Co. His successor in Louisiana has not been chosen but the conservation department announced a technical man would be selected to fill the vacancy.

TEST TWO MILES NORTH OF SAGINAW

(Continued from Page 66)

the best showing of any of the six completions and will eventually bring about a more active drilling campaign. The real future of the field depends to a great extent on what is found 1½ miles north of the Sun well and located on the Boldebuck lease of the Bliss Petroleum Co. The

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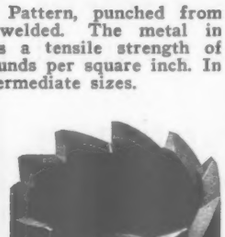

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Ohio Oil Co. has secured leases to the west of developments in Sections 10 and 15, Saginaw Township, and expect to start work soon.

Leasing is going on far to the north of Saginaw and extends over into Bay County toward Bay City. As soon as weather will permit the new area between these two cities should show a real drilling activity. The oil is found in the Berea sand with depths varying from 1,814 to 1,835 feet, the crude bringing Pennsylvania prices.

KIOWA TRUST FUND EXTENDED TEN YEARS

By Charles E. Kern
Washington Bureau
The Oil and Gas Journal

WASHINGTON, D. C., Apr. 10.—The House Committee on Indian Affairs has favorably recommended Senate joint resolution 71, authorizing the Secretary of the Interior to establish a trust fund for the Kiowa, Comanche and Apache Indians in Oklahoma. The trust period for these Indians in Oklahoma was originally fixed for 25 years, and is due to expire by limitation this year. This bill extends this period 10 years. It affects 3,500 allotments. This fund will be created from oil royalties and bonuses heretofore and hereafter coming into the hands of the Secretary of the Interior, in the land of the Red River, except 37½ per cent of which, it is provided, shall go to the State of Oklahoma, and also excepting such amounts as may be necessary to pay awards to claimants received from royalties and bonuses from the Red River land with accrued interest thereon to January 31, 1926, which is $975,082, of which amount $365,656 would accrue to the State of Oklahoma. The amount accruing under the Red River Oil leases, monthly during the month of January this year was $6,147.

ALLIGATORS HALTING GEOPHYSICAL TESTS

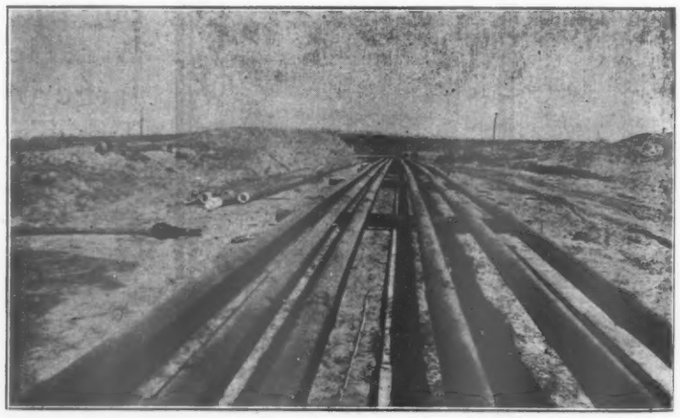
HOUSTON, Tex., Apr. 10.—Making geophysical tests with the seismograph, involving as it does the use of dynamite, is fraught with danger and several accidents have occurred in the Coastal territory. Now a new menace is halting exploration work in the marsh section of Cameron Parish, Louisiana. Seismograph tests are being made in that region. A quantity of dynamite sticks disappeared from camp. The swamps are alive with alligators, who have been preying on the muskrats. The muskrats in turn are hunted for their fur by natives, who make a livelihood during the winter months. The hunters have been making war on the alligators. A postmortem on one of the saurians revealed several sticks of dynamite in its stomach. Now the war has been called off, the hunters fearing a bullet may explode the dynamite in some 'gator and prove disastrous to them as well as the big lizards.

Exploration work with the seismograph has been called off temporarily.

NEXT NAVAJO SALE

OKLAHOMA CITY, Okla., Apr. 10.—Oklahoma senators and representatives in Congress have been petitioned to ask the Secretary of the Interior to hold the next sale of oil and gas leases on the Navajo Indian reservation of New Mexico at Farmington instead of Santa Fe.

NATURAL GAS LINE TO BAYTOWN REFINERY



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a tool designed to save the oil industry thousands of dollars annually in hauling expense and in reclaimed pipe. Weighs 1275 pounds; straightens 8″ pipe or smaller, and Kelly Joints. Entirely self-contained and very fast.

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Machine can turn out as much straight pipe as with a stationary power machine—and save all hauling expense, often as much as $1 or $2 a joint. Equipped with this tool, field machine shops can save operators thousands of dollars by taking the straightener to the pipe, thus eliminating all pipe hauling from lease to machine shop and back. Or, by owning a W-K-M Portable Hydraulic, operators can save themselves both hauling and straightening expense. Miles of pipe now laid aside for sale as junk can be reclaimed at savings ranging from 10c per foot on 2½″ tubing, to 50c a foot on 8″ casing or line pipe.

Weight
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Power
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Capacity
8″ pipe and smaller
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Price $350
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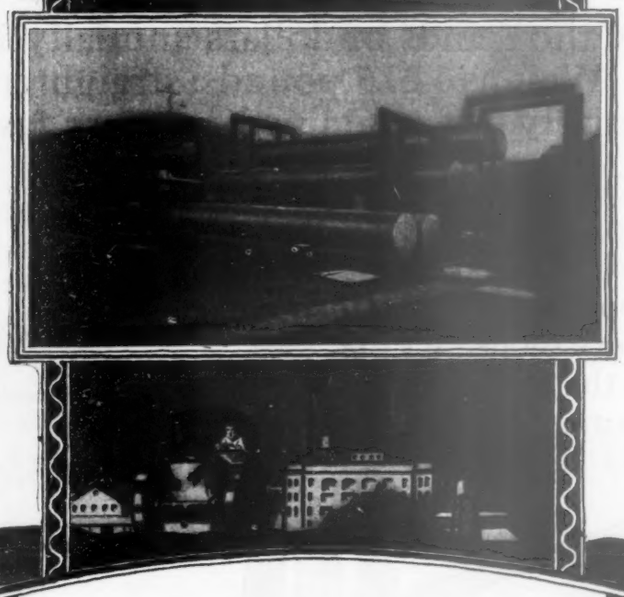

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HYDRAULIC FEED ROTARY DRILL USED SUCCESSFULLY IN MEXICO

By George Blardone
Mexican Bureau, The Oil and Gas Journal

TAMPICO, Mex., Apr. 10.—Perhaps the most revolutionary mechanism for drilling oil wells produced since the rotary type was evolved, as compared with the original standard type, has been perfected in Mexico by Sheldon & Burden, drilling contractors, who commenced operations here early in 1922 with three diamond drilling outfits purchased from two different manufacturers in the United States. The results of their experiments in actual field work and consequent revolutionary improvements evolved into a hydraulic feed rotary drill that is at once a diamond drill, if such system is desired, or a high speed rotary that will drill a hole from 20 inches to 4½ inches.

In sum, this new mechanism might well be called a combination of the hydraulic feed system, which is a distinguishing feature of the diamond drill, and the rotary as it is commonly known. Such refinements as light weight, direct drive and high speed, are among the other more notable features.

Evolution of the Machine

The evolution of these original diamond drilling outfits into the machine under discussion commenced early in 1922 after Sheldon & Burden drilled their first wildcat well, with one of these outfits, in the western part of Toteco (south fields), Mexico. True, the first well drilled in Mexico with a diamond drill had been finished in the Panuco district of the northern fields late in 1921. But the depths and formations in the south fields were not the depths and formations in the Panuco Field; and immediately the contractors found themselves in difficulties. Here in this western Toteco wildcat it was a question of soft formation and the necessity of keeping an open hole to a considerable depth; and then handling long strings of casing. So they commenced improvements immediately, practically rebuilding their machines, i.e., the gearing ratio was changed; drums capable of spooling enough cable to handle casing and catheads were added, etc.; but even these first improvements did not suffice. Wherefore, the idea of incorporating the hydraulic feed principle with the rotary table, to which should be added the drawworks, and a superior type of motive power, all to be assembled on a light, strong frame. These features, one by one, have been worked out and developed in actual field practice, all of which are now included in the latest type, and are covered by patents controlled by Sheldon & Burden.

Operation Described

The result, in brief detail: A light high speed rotary (rotary table speed can be "stepped up" as high as 350 R.P.M. if desired), with very fine bearings in a rigid frame; a sensitive but strong hoisting drum, and a six-cylinder steam rotary motor that is practically vibrationless with a range of speed as high as 900 R.P.M., and reverses with throttle full open. Friction clutches, properly engineered, connect the motor to both high and low drum speeds and to the rotary drive as well. The hydraulic cylinder is attached rigidly to the rotary table frame below the rotary, while hydraulic piston head and movable parts travel for a 24-inch stroke, through the inside of the table, and can exert a pressure of 60 tons, either up or down. The flush joint pipe is gripped by a patented device that rotates and holds the pipe for all pressures, and the drilling is accomplished through a stuffing box. In soft formations, at shallow depths, the rotary drives the regular grief stem by means of regulation drive bushings, and the hydraulic feed attachment can be put in place or removed in say two hours' time by the driller.

The machine with its hydraulic device is mounted on a 12-foot frame, which is securely anchored by three U-bolts around the steel base of the derrick. Its weight is 10 tons. The steam motor can

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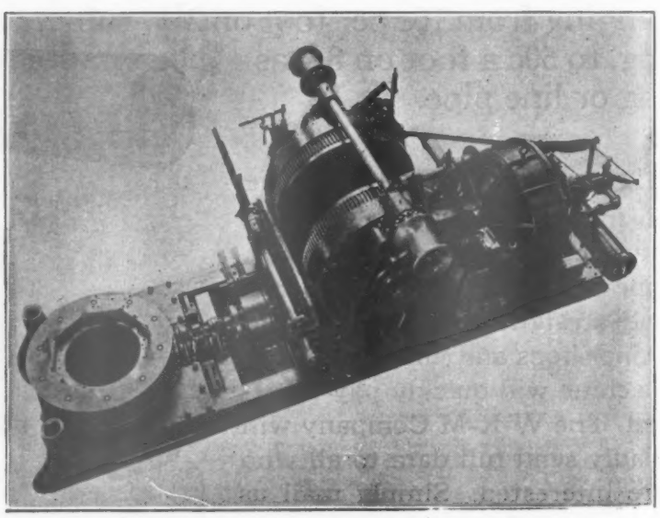
The machine was built specially for operation in the Mexican fields, and is being developed with that idea. Its feature (aside from design) is its ability to handle wells of tremendously heavy gas pressures.

At present it is being used in the Landreth Pool near Electra, Tex.

The hydraulic feed rotary is totally different from any other ever built. It is run by a six-cylinder steam motor. The cylinders are very small having a bore of about 5 inches.



Sheldon-Burden machine showing 20½-inch hole through rotary.

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Dunn Side Door, Double Link Tubing Elevator

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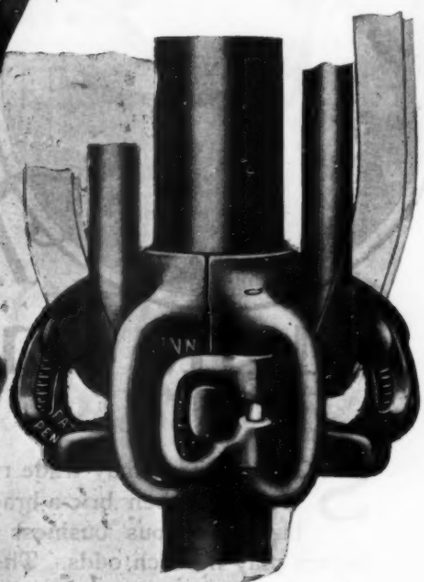

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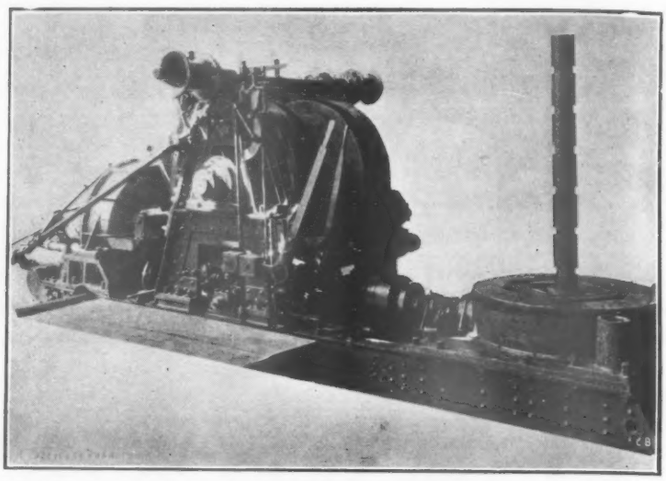
be removed and either electric or gasoline power substituted.

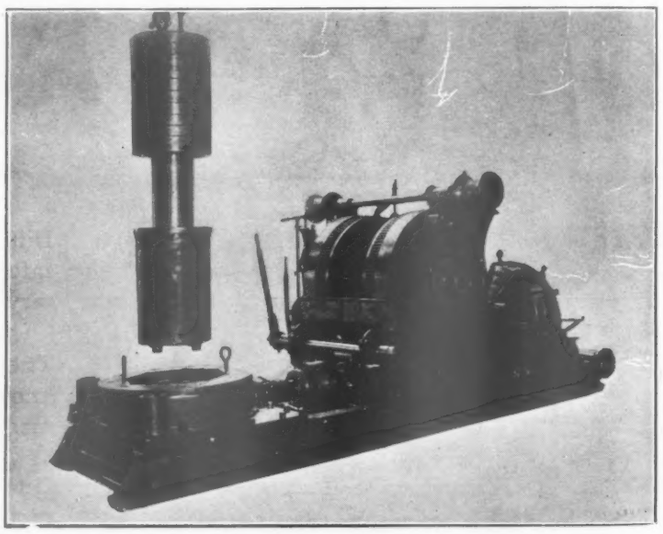
It is claimed, and the claims are easily substantiated in Mexico, that in bringing in wells under high gas pressure (a notable feature of Mexico's gusher pools), the drill stem in this machine can be withdrawn with absolute safety; the well kept under perfect control, even if pure gas is encountered; and, if desired, after the tools are withdrawn and the valve closed, the well can be drilled deeper or screw flush joint pipe set as an oil string. The combined features of the machine make the above possible.

In coring, it is held forth, either in hard or soft formations, the use of the high speed rotary and hydraulic feed tends to fast progress and freedom from the usual troubles of coring with the regular rotary, especially at greater depths.



Sheldon-Burden machine with rotary drive bushings and grief stem with horizontal slots to engage gripping device of hydraulic pressure feed.

In the past three years the Sheldon & Burden organization has completed 80 wells in Mexico, ranging from Linares, in the State of Nuevo Leon to Agua Nacida south of the Tuxpam River. The deepest well this organization completed was No. 24 Los Naranjos (south fields), drilled to 5,114 feet, carried down from 3,200 feet to its finishing depth against a gas and water pressure of 250 pounds, and over 3,000 feet deeper than the original Tamasopa limestone horizon, where the well originally was a 50,000-bbl. salt water producer. This was the famous "deep test" of the south fields to see how thick the Tamasopa limestone was. The organization also handled No. 29 Toteco, a famous gasser for nearly two weeks, with a gas pressure of 1,200 pounds. It was under such diverse conditions that the Sheldon-Burden hydraulic feed rotary drill was developed.



Sheldon-Burden machine showing hydraulic feed attachment for diamond drill or coring with any rotary coring device; also pressure control for bringing in high pressure gas or oil wells.

SOUTHEASTERN UTAH OIL POSSIBILITIES

(Continued from Page 90)

into columnar blocks on weathering. It is about 500 feet thick in southwestern Utah and is somewhat thinner in eastern Utah, where it has been called the "upper Dolores sandstone" by Cross and others. It persists eastward into the vicinity of Grand Junction, Colo., where it is about 300 feet thick, but is absent farther south. Near Telluride the basal La Plata or Navajo sandstone rests unconformably on the conglomerate beds of the Dolores formation, which are correlated with the Chinle formation. In other places in western Colorado probable representatives of the Wingate have been included in the Dolores formation.

This eastward thinning and final disappearance of the Wingate sandstone may be due to nondeposition or to lateral change in lithologic character or to erosion after the sandstone was laid down.

At every exposure that was examined the Wingate sandstone gives place abruptly at its base to the Chinle beds.

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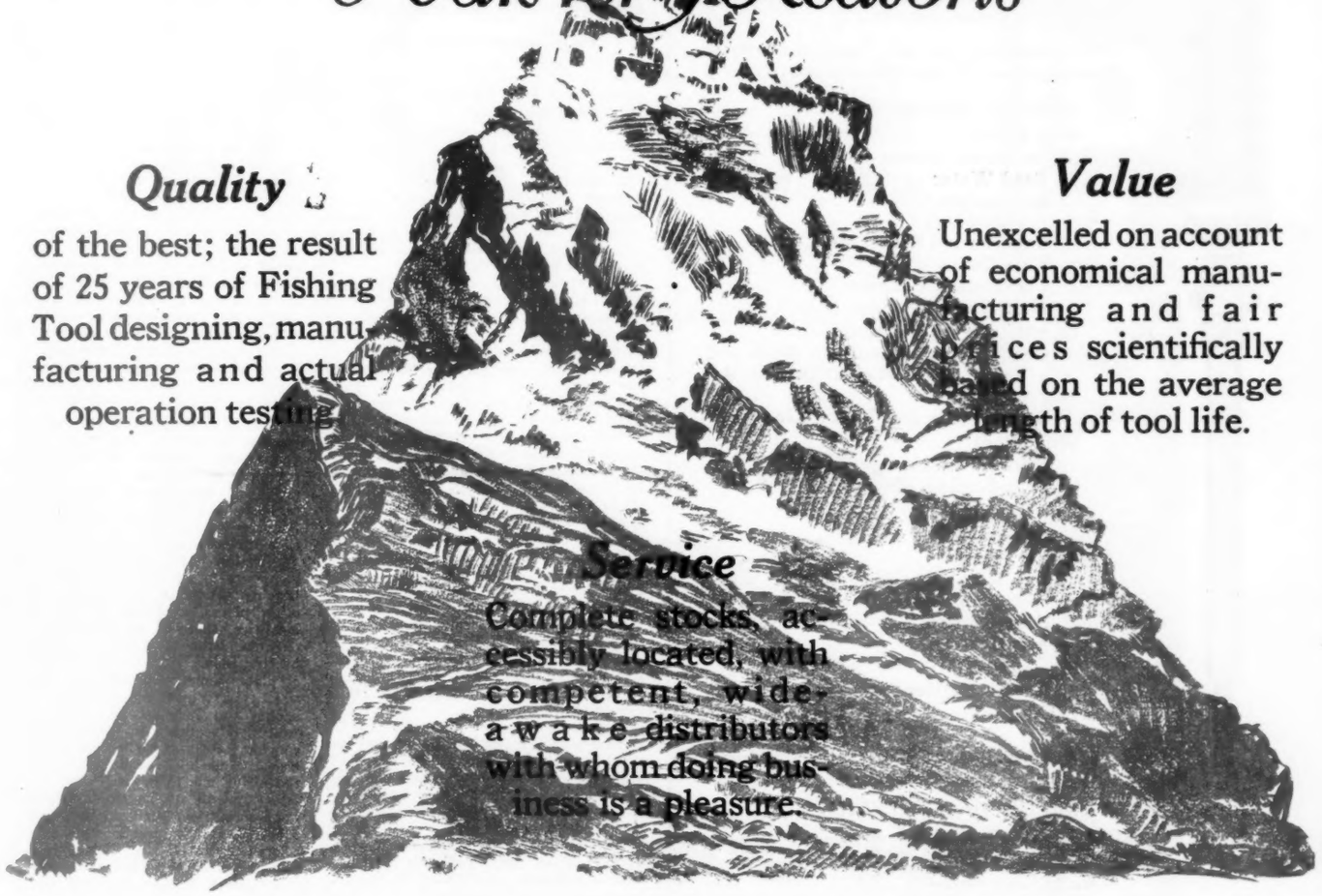

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The contact is irregular, as if it represented an old surface of erosion. This irregular contact and the irregularity in thickness of the underlying Chinle beds seem to indicate an unconformity of wide extent.

Todilto formation.—The rocks here called the Todilto formation consist of platy red sandstones that contain thin layers of shale. Pebble beds are found in the formation in a few places. In southeastern Utah the Todilto does not differ conspicuously from the underlying Wingate sandstone. It is locally absent, and its maximum observed thickness is 200 feet.

Navajo sandstone.—The Navajo is a light-colored, massive, strongly cross-bedded unfossiliferous sandstone. It seems to attain its maximum thickness in southern Utah, where it is about 1,000 feet thick, and it thins toward the north and the east. Near Green River, Utah, it is little more than 300 feet thick, in southwestern Colorado it is less than 200 feet, and farther to the north and east it is still thinner.

The Navajo sandstone lies with apparent conformity upon the preceding beds in the western localities, but the presence of an unconformity beneath it is clearly evident in its more easterly exposures, where it overlaps the older formations and finally rests on pre-Cambrian granite.

Unquestioned Jurassic Rocks

The rocks now assigned without question to the Jurassic have recently been divided into four formations, to which, in forthcoming reports by Gilluly and others, are applied in ascending order the names Carmel formation, Entrada sandstone, Curtis formation and Summerville formation. The Carmel and Curtis contain marine faunas of Upper Jurassic age, and the Summerville is so closely related to the fossiliferous Curtis formation as to leave no room for doubt that it also is of Jurassic age.

Carmel formation.—The Carmel formation is of marine origin in central Utah; in eastern Utah it consists of interbedded nonfossiliferous red sandy shales and thin-bedded sandstones with local beds of limestone and gypsum. The formation in the eastern region contains erosional unconformities that may lie at different horizons in different places, and some of the strata are markedly crinkled, characteristics which aid in identifying the formation. The Carmel is apparently equivalent in age to the middle part of the La Plata sandstone of western Colorado and together with the overlying Entrada and Curtis formations was included in the "McElmo formation" as described by Lupton in his report on "Oil and gas near Green River, Utah," published in the Geological Survey's Bulletin 541, although all three are now known to be older than type "McElmo."

The Carmel is 300 feet thick near Bluff and 100 feet thick near the mouth of San Rafael River and grows gradually thinner eastward.

Entrada sandstone.—The Entrada is a cross-bedded sandstone that is 500 feet thick in central Utah and thins eastward. It is the sandstone near Moab that was regarded by Cross as "upper La Plata," and it has the same relative stratigraphic position as the upper part of the La Plata sandstone of western Colorado, which is 50 feet thick near Telluride. It contains manganese near Green River, and it forms many alcoves and natural bridges and is the monument-forming sandstone of Bluff, Utah.

Curtis formation.—The Curtis formation consists of marine sandstones and shales that lie unconformably upon the Entrada sandstone. The Curtis is 50 feet thick near Green River and apparently thins out eastward.

Summerville formation.—The Summerville formation is typically developed in the San Rafael Swell. It consist of red shaly sandstones, sandy shale and beds of limestone and gypspm, which seem to correspond to the older part of the "McElmo formation" as exposed in McElmo Canyon, Colo. The Summerville is closely related to the underlying fossiliferous Curtis formation and hence is regarded as of Jurassic age. It commonly contains concretions of chalcedony and yields manganese dioxide near Green River, Utah. The Summerville is 125 feet thick near the mouth of San Rafael River and less than 100 feet thick at the Colorado line; it either thins out completely or changes in lithologic character toward the southeast, so that it is not readily distinguishable from the "McElmo formation."

Cretaceous (?) Rocks

Morrison formation.—As here identified the Morrison formation consists of the Salt Wash sandstone member and overlying variegated sandy shales of characteristic Morrison type. In earlier reports on southeastern Utah and southwestern Colorado these beds have been included in the "McElmo formation."

Salt Wash sandstone member.—The Salt Wash sandstone, which has previously been classed as a member of the "McElmo formation," lies unconformably upon the Summerville and consists of ledge-making, more or less conglomeratic sandstones, containing dinosaur bones, petrified wood and fresh-water shells, which are interbedded with minor amounts of red and varicolored shale. The conspicuous lithologic character of the member facilitates its recognition, and it yields most of the carnotite and vanadium ore that is mined in southwestern Colorado and eastern Utah. It is most prominent in Colorado, where it is 400 to 500 feet thick, and less so in Salt Valley, northwest of Moab, Utah, where it is 140 feet thick; it thus grows progressively thinner toward the west.

Variegated shales.—The variegated shales so characteristic of the Morrison formation were formerly classed as forming the upper part of the "McElmo formation." They are variable in thickness, though of uniform lithologic character throughout the area here described. They consist of minor local beds of channel conglomerate interbedded with variegated sandy shales such as those characteristic of the Morrison of the Front Range. In the easterly localities the variegated shales lie unconformably on the Salt Wash member, and their observed thickness ranges from 275 to 600 feet. In the westerly localities there seems to be no break between the Salt Wash member and the overlying variegated shales.

Beds of undetermined age, believed by some to be Dakota and by others to be pre-Dakota. Above the beds accepted generally as Morrison lies a variable group of beds which begins at many places with a siliceous conglomerate that is succeeded by highly colored shales and these in turn by coal-bearing sandstones and shales. At other places a basal conglomerate is succeeded directly by coal-bearing sandstone and shale. At still other places, especially in the westerly localities, there is no conglomerate but only sandstone, with or without coal-bearing beds. The colored shale division, at places more than 100 feet thick, consist of pink and greenish-blue sandy shales and is most prominent in the westerly localities in Utah, where the conglomerate and colored shales have been assigned by Lupton and others to the "McElmo formation" and by some later students of the region to the Morrison formation. In Colorado, where the conglomerate is usually thick and the colored shales thin or absent, they have been described by Coffin as "pre-Dakota" and "post-McElmo." Lee and Boyer, on the other hand, believe that the conglomerate and overlying shales belong to the lower part of the Dakota formation as delimited by Cross.

Upper Cretaceous Rocks

Dakota (?) sandstone.—In most places a sandstone lies between the colored beds, where these are present, or the carbonaceous beds, where coal occurs, and the overlying Mancos shale. This sandstone is the Dakota sandstone of some geologists and is the upper sandstone of the Dakota of those who include the colored beds and conglomerate beneath them in the Dakota formation.

Mancos Shale.—The Mancos shale, which is of Upper Cretaceous age, is a dark shale of marine origin. In most of the area examined only a thin remnant

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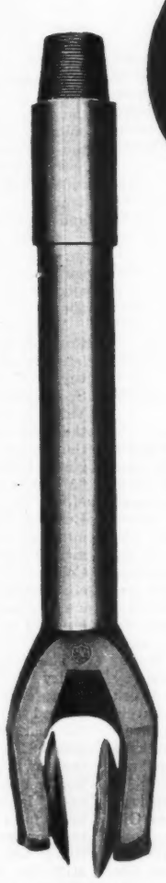

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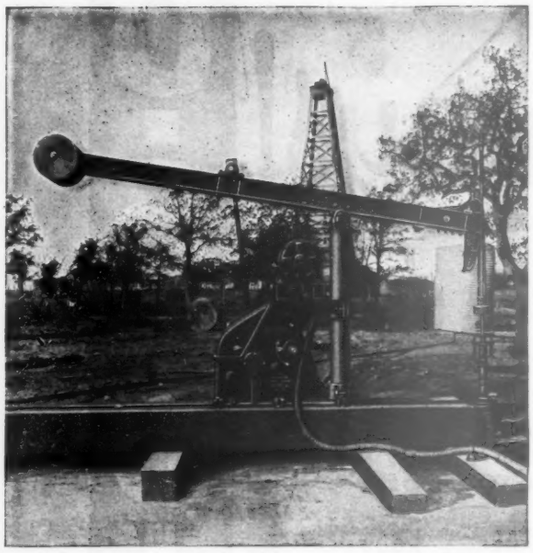

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of this shale remains, and little attention was given to it.

Correlations

The Cretaceous beds and those of possible Cretaceous age—that is, down to the base of the Salt Wash member of the Morrison formation—are readily recognizable, persistent, and reasonably regular in thickness. Also the beds of Upper Triassic age, the Chinle formation, and possibly the Shinarump conglomerate, and their equivalents in Colorado, the Dolores formation, are readily identified by their peculiar lithologic character and their fossils. The subdivisions of the beds between these two horizons are correlated from place to place with some doubt. These subdivisions are irregular in thickness and the sediments represent accumulations near the eastern margin of a basin which seems to have been only intermittently occupied by sea water. Within the area here considered they range in thickness from more than 2,000 feet at the west to less than 200 feet at the east, in a distance of about 100 miles. This rapid diminution in thickness in beds chiefly of nonmarine character suggests the need of much more careful tracing of individual beds than has yet been done, before correlations of the subdivisions can be made with confidence. The relations described above seem reasonable but should be checked and verified. The Wingate sandstone and the Navajo sandstone are readily recognized in most places where they occur together. But in some places, where only a small exposure is visible, it seems impossible to determine which sandstone is represented. Recognition of the still younger Jurassic beds is even more difficult without careful mapping to determine which beds thin out and which persist.

More precise correlation of the formations of Triassic and Carboniferous age is highly desirable, but such correlations can not be made without additional information. The petroliferous Pennsylvanian rocks may once have extended over the Uncompahgre Plateau and may have been removed by erosion, but their lithology and the character of their fauna suggest that they were deposited in an embayment southwest of the Uncompahgre Plateau, which had an intermittent connection with the Pennsylvanian sea of areas east of the Rockies.

Possibilities of Oil in the Area

The presence of oil in Pennsylvanian beds below the salt and gypsum zone has been demonstrated by the Cane Creek well and has been suggested by the small quantities of oil and gas that were found in the Big Six wells, near Moab, and in the Crescent-Eagle well, on the northwest end of the Salt Valley anticline. Because of faulting near these wells and the concealment of the bedrock the precise significance of these wells is not determinable. In general, however, anticlines in southeastern Utah and southwestern Colorado that are underlain by the beds now productive at Cane Creek may yield oil and gas, and it is barely possible that higher sands which overlie these Pennsylvanian beds may have been saturated with oil by upward migration.

According to the work of the Geological Survey party in charge of James Gilluly, the beds that yield oil at Cane Creek may lie less than 3,000 feet below the surface near the crest of the San Rafael Swell, about 4 miles west of the Carter Oil Co.'s test well that was drilled on the Sinbad Plateau in Township 23s, Range 12e. Further exploration of the Swell therefore appears to be warranted. Similarly the possibility of obtaining oil from the McElmo dome in Montezuma County, Colorado, does not appear to be excluded by the failure of the test well drilled on it in 1921 by the Midwest Refining Co. This well, which was started in the lower part of a sandstone in the Dolores formation that was identified as the Wingate sandstone, apparently entered the Hermosa formation at 2,852 feet and below that depth penetrated numerous beds that yielded some oil and a considerable volume of gas, but it may not have reached the beds that are productive at Cane Creek.

The well of the Cinco Minas Co. in Paradox Valley, has encountered gas under heavy pressure in salt beds that were penetrated by it, and the well of the Gilmore Oil Co., on the Dry Creek anticline, 10 miles southeast of the Cinco Minas well, may or may not have reached the top of the Pennsylvanian.

Structure

Marked folding and erosion took place prior to the deposition of the Chinle formation (presumably in early Triassic time), and similar folding may have taken place still earlier, in late Carboniferous time. Minor earth movements recurred intermittently during the later part of the Mesozic era and culminated in the great differential uplift and faulting which took place in post-Cretaceous time.

As a result of the combined effects of these deformations numerous prominent anticlinal folds, which trend northwest and expose Carboniferous and Triassic rocks, have been developed in southwestern Colorado, and other less conspicuous anticlines, which belong to the same system, have been developed in southeastern Utah between the Arizona boundary and the Denver & Rio Grande Western Railroad. The apparent southwestward decrease in the intensity of folding may, however, be more apparent than real, as post-Triassic rocks cover several of the Utah anticlines, and because of the unconformities beneath them these younger rocks are presumably less strongly folded than the underlying Carboniferous beds.

Flowage of the salt and gypsum beds, which lie above the productive beds of the Cane Creek dome, may have occurred on a considerable scale, and as a result the structure of the oil-bearing beds may not be accurately reflected by the attitude of the beds above the salt and gypsum zone. Because of the unconformities and possible flowage of salt beds it may therefore happen that the precise structure of the productive beds can be ascertained only after a considerable amount of exploratory drilling has been done.

Many of the anticlines in southwestern Colorado are described by Coffin in Bulletin 16 of the Colorado Geological Survey, and Prommel's maps of the Cane Creek and related domes and of the Salt Valley anticline in Utah are published in the Bulletin of the American Association of Petroleum Geologists for July-August, 1923. Woodruff, in a note on "Marsh Gas Along Grand River Near Moab," in the U. S. Geological Survey's Bulletin 471, mentions the anticline 12 miles above Moab, near the crest of which methane gas escapes along the bed of the Colorado River; and the McElmo anticline in Montezuma County, Colorado, is mapped and described by Coffin in Bulletin 24 of the Colorado Geological Survey.

The town of Moab is situated in a valley that was formed by the partial collapse of the crest of an anticline, described by Lupton, that extended from the northwest part of Township 27s, Range 23e, into the area southeast of the town of Green River. The Lisbon Valley uplift, south of the La Sal Mountains, is bounded on its northeast side by a fault that passes a little north of the southwest corner of Township 30s, Range 26e, and close to the Big Indian Mill, in Section 34-29s-24e. The displacement on the fault is about 3,200 feet near the center of Township 30s, Range 25e, and it decreases northwestward, until the fault apparently merges into the Dry Valley anticline, a gentle fold that extends northwestward across the northern part of Township 29s, Range 23e. The Lisbon Valley fault divides into a multiple fracture in Township 31s, Range 26e, and dies out in the Disappointment syncline in Colorado. The Big Indian anticline, a small, narrow fold, parallels the Lisbon fault and lies northeast of it in Township 30s, Range 25e, and a small fold, which exposes the Entrada sandstone, occurs in the northeast corner of Township 28s, Range 23e. Other folds are known to cross the canyon of the Colorado River between the mouth of Indian Creek and San Juan River, and still other anticlines will undoubtedly be

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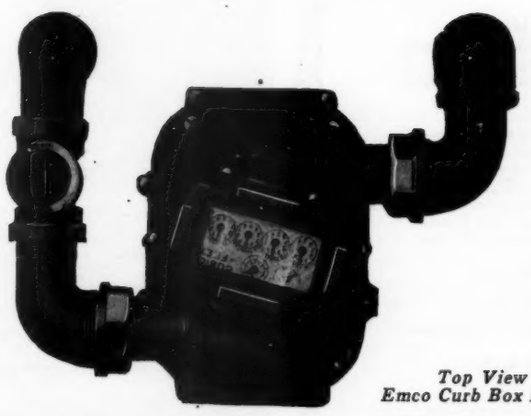

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Bovaird & Company—Bradford, Pa.
The Birdgeport Machine Company—Oklahoma, Kansas and Texas
Decker Tool & Supply Company—Texas
The Drillers Supply Company—Kansas
Great Northern Tool & Supply—Montana
Hinderliter Tool Company—Oklahoma
Murray Tool & Supply Company—Oklahoma
New Martinsville Supply Company—New Martinsville, W. Va.
Republic Supply Company—Oklahoma and Texas
Rope & Cordage Company—Parkersburg, W. Va.
Southwest Supply Company
The Staves Supply Company—Kansas
Wagner Supply Company—Texas
Western Supply Company—Oklahoma
Western Drilling Tool & Supply Company—Kansas

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found in the course of further exploration, both in southeastern Utah and southwestern Colorado.

Accessibility and Conditions of Operation

The region here considered is accessible from stations on the main line of the Denver & Rio Grande Western Railroad by a well-kept automobile road which leads southeastward from Thompson to Moab and by roads which lead westward from Dolores and other towns on the narrow-gage branch of the Rio Grande Southern Railroad. A good road leads from Moab to Monticello and Bluff, and other roads connect these towns with the railroad at Dolores; also a secondary road leads from the Moab bridge up the gorge of the Colorado to Castleton and Cisco. Few trails are passable by automobile in the area west of the Moab-Bluff highway on account of the steep arroyos and deep sand, and much of that area will be traversable only with great difficulty.

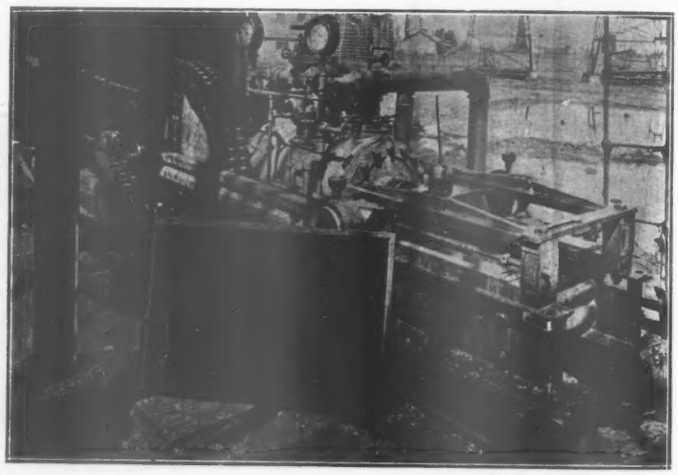
In the region east of the Moab-Bluff road, water can commonly be obtained without serious difficulty, but west of the road there is little permanent water except that of the Colorado River and of its deeply entrenched major tributaries.

It is reported that an oil company interested in the development of the area is planning to lay a pipe line from the Cane Creek district to the Denver & Rio Grande Western Railroad near Thompson. Until oil or gas becomes available, fuel for drilling may be obtained from railroad points to the north and east or from local mines that operate on coal beds in the Dakota (?) formation at several localities east and northeast of Monticello. Wood may be obtained from the slopes of the La Sal or Blue Mountains.

NEW HYDRAULIC PUMPING UNIT DESIGNED TO MEET SPECIAL PROBLEM

The constantly changing conditions in production of oil call for new methods and machinery for successful and economical operation.

The Hydraulic Pumping Unit, manufactured by the Pacific Oil Tool Co. and handled by the Frick-Reid Supply Co., recently installed in the Tonkawa district, is an excellent example of an improved pumping method designed to meet a special problem. The problem that has only recently arisen is that of pumping a large quantity of fluid with high water content from a deep well. The success of the hydraulic unit lies in its ability to give a long stroke and rapid motion on the working barrel or pump (high piston speed) without the attendant rod trouble, etc., usually encountered in long stroke beam pumping wells.



This hydraulic pumping outfit is a simple affair and may be briefly described as follows:

It consists of three principal parts: First, hydraulic jacks; second, pump; third, pressure tank or compensator.

First, the hydraulic jacks are 5-inch cylinders 20 feet long and blind at one end with stuffing box at open end; 4¾-inch plungers fit in the cylinders. The cylinders are sunk on each side of casing in well diametrically opposite and at equal distance from casinghead with stuffing box at the floor level. The two plungers have a crosshead connecting them and the polish rod is supported from center of the crosshead. The cylinders of the jack are connected by a 3-inch pipe manifold and the stuffing boxes are specially designed to permit easy sealing.

Second, the pump is a single cylinder, double acting 15¼-inch bore by 16¼ to 23¼-inch stroke, piston type power pump. It is placed on derrick floor outside of bull ropes and driven by chain drive from sprocket on bandwheel shaft. The bandwheel is belt driven by any convenient means, steam, gas, or oil engines or motor. The pump frame carries a 4-inch jack so that a single chain from 52-tooth sprocket on bandwheel shaft drives 21-tooth gear in center of jack shaft. The jack shaft has a double chain drive on each end driving discs on each end of 5-inch main shaft. These discs each carry a 5½-inch by 4-inch pin which may be set in one of four holes to adjust stroke. Connecting rods on each side drive through crosshead to the piston. Gear ratio of jack shaft to main shaft is six to one so that one stroke of pump requires $\frac{6 \times 21}{52} = 2.4$ revolution of bandwheel shaft. The front end of pump cylinder is connected through 4-inch pipe to the manifold on hydraulic jacks and the capacity of pump is such in relation to the capacity of jacks that when the pins are set in first hole the displacement of pump in one stroke will raise plungers seven feet, second hole eight feet, third hole nine feet and fourth hole ten feet respectively.

Third, the pressure tank is merely a drum or piece of casing 15½ inches by 20 feet set on end in corner of rig. It is connected by a 4-inch line direct to the jack end of pump cylinder (connected up on opposite end from hydraulic jacks). A small air compressor is used to create air pressure in the pressure tank. The pressure tank serves the purpose of a counterbalance as explained in the operation of the unit.

Operation of Hydraulic Unit

After the entire system has been filled with water, including jacks, pump, piping and air tank, to a 4-four level, the air pressure is created in pressure tank and pump started. (A detailed explanation of proper pressure and method of operation

Multiply Shooting Benefits Reduce Shooting Risks

—Those resulting from carelessness in handling explosives;

—Those arising from the lowering of the nitroglycerine;

—Those connected with efforts to detonate the charge.

Zero Hour Electric Bomb has minimized the dangers from the latter source. But this is only a part of safe shooting. Lowering nitroglycerine in old style tin shells is as fraught with danger to your well as is the use of obsolete detonators. In Zero Hour Vitroid Shell, however, science gives you its latest achievement in reducing the dangers of oil well shooting—that risk always associated with the use of tin shells.

When you insist upon the use of ordinary care in the handling of explosives, and the use of Zero Hour Vitroid Shell and Zero Hour Electric Bomb you have reduced the possibility of damage resulting to your well.

Zero Hour Vitroid Shell

TOGETHER WITH

Zero Hour Electric Bomb

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Zero Hour Electric Bomb is magnetic-proof and fluid-proof; it explodes where and when wanted.

Zero Hour Electric Bomb eliminates the possibility of a premature detonation which is so common with Squibs.

Multiply Shooting Benefits

Zero Hour Vitroid Shell and Zero Hour Electric Bomb are completely shattered under discharge.

Zero Hour Vitroid Shell and Zero Hour Electric Bomb leave no tin or wire in the hole. Everything is shattered into small particles or completely consumed from the heat of the explosion. This greatly increases the possibilities of a freely flowing well and the consequent beneficial results arising therefrom. Use of Zero Hour Vitroid Shell and Zero Hour Electric Bomb is an assurance of getting your well on production with the least possible delay.

Every producer is vitally interested in HOW his well is shot. Failure to insist on safe appliances is to assume unwarranted risks. Repairing or replacing a damaged well is expensive. Time used in correcting the results of a faulty shot results in loss of production. All involve YOUR money.

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is omitted for sake of brevity.) At one-half complete stroke of pump the plungers are displaced and lift polish rod, plunger, etc., full stroke 7 feet to 10 feet as desired at rate of 8 to 20 strokes per minute. This requires a pump pressure of about 450 pounds per square inch in a 4,200-foot well with 2½-inch barrel and tubing. This pressure is referred to as pick up pressure. If the back pressure on pump due to load of the rods and column of fluid is 200 pounds per square inch there is a difference of 250 pounds between pick up pressure and back pressure. The air pressure tank or compensator built up that is a mean between the pick up and back pressure which in this case is 325 pounds. Then when the pump is raising the jacks the compensator is aiding by its pressure of 325 pounds and only 125 pounds must be exerted by power, through the piston rod. Then as pump completes full stroke the jacks are lowered to original position. On the down stroke of the jacks there is a dead load of only 250 pounds per square inch but the compensator pressure of 325 pounds must be overcome so again the power through piston rod must exert 125 pounds. It is thus seen that as much power is expended through the driving unit to lower the jacks as to raise them.

A rapid motion is obtainable on this unit without injury to the well equipment (parted rods, etc.) because of the gentle reversal of motion on top and bottom stroke. Also the usual belt trouble, jack post, bandwheel trouble, etc., is eliminated because of the gear ratio of the pump. For instance to run 20 strokes per minute 9-foot stroke obtaining 185 feet of effective rod travel per minute the bandwheel travels at rate of 48 revolutions per minute permitting a higher engine speed and belt speed which is universally recognized as desired. To obtain the same effective rod travel with the usual beam well on 5-foot stroke would require 36 strokes per minute, which would be very severe on rods, rig, etc.

The hydraulic pumping unit is provided with by-pass and constant head pump in such manner to make operation simple and automatically take care of any water which might leak out of unit.

Due to long stroke and to facilitate spacing, a 17-foot plunger type working barrel is used. This also requires a long polish rod (20-foot commonly used). The rods and balance of well equipment are the same as used in general practice.

The expense of operation of this unit and its upkeep is very slight. One of the units has operated in the California field for 240 days without a shut down of any description. The packing of the hydraulic jacks has been carefully worked out and with proper lubrication the replacement of the packing is not frequent. The only other packing in the unit is that on the piston rods of the pump and this uses the same type of packing as the jacks and its replacement is infrequent.

OSAGE NATION LESSEES CONSIDER GAS PROPOSAL

Oil and gas lessees and casinghead manufacturers in the Osage Nation of Oklahoma are near agreement on a set of regulations to be presented to the Osage Indian Agency and the Department of the Interior. This was indicated at a joint meeting of the three groups which were held in the offices of the Mid-Continent Oil & Gas Association in Tulsa, when Rush Greenslade of the Gypsy Oil Co., chairman of the steering committee appointed by the lessees, read an exhaustive set of regulations which had been prepared by his committee. No action could be taken, however because time is needed by all interests involved to study the proposals.

The provisions contained in these regulations showed that the oil lessees and gas lessees both believe that certain questions concerning the application of gas, air or other foreign substances to the restoration of pressure on sands in the Osage cannot be adjudicated out of court. Two of these questions concern the ownership of the gas and the tailhouse vapors, and the meaning of the term "operating

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AUTOMATICALLY cracks off the scale formed on the outside of the tubes by the pronounced bowing of the tubes on change in temperature whenever steam or vapor is admitted to the section.

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purposes." Both oil and gas lessees, likewise, desire that some arrangement be made to enable both sides to continue their business uninterrupted during the pendency of a test suit. It is further demanded that the legal rights of all parties be preserved while the matter is being adjudicated by the courts.

The oil lessees' proposal contains these provisions, stating that the oil lessee shall have the right to use his casinghead and tailhouse vapors for restoration of pressure, free of interference from the gas lessee but that the use of gas shall be used under the direct supervision of the agency. It is further provided that the use of air shall not be permitted except after a hearing before the agency at which all parties shall have an opportunity to voice objections, and that the use of air shall be regulated by certain practical measures. All exceptions and conditions that the committee could think of are treated in separate clauses of the report.

While most of the gas lessees and casinghead men present praised the thoroughness with which the oil lessees had studied the problems, the exhaustive and detailed character of the report made it necessary for them to take more time to study and digest it. The meeting was therefore subdivided so that the gas men and casinghead representatives could appoint steering committees, and the three groups are to meet again as soon as each one has had an opportunity to formulate its own proposals.

The steering committees are as follows:

Gas lessees: chairman, R. L. Gordon, Indian Territory Illuminating Co., Bartlesville, Okla.; W. C. Franklin, Tidal Co. Co., Tulsa, Okla.; Frank Long, Sand Springs Home, Sand Springs, Okla.; H. L. Montgomery, Empire company, Bartlesville, Okla.; G. G. Shallenberger, Kay County Gas Co., Ponca City, Okla. Oil lessees: Chairman, Rush Greenslade, Gypsy Oil Co., Tulsa, Okla.; William N. Davis, Phillips Petroleum Co., Bartlesville, Okla.; But Collins, Echo Oil Co., Tulsa, Okla.; G. S. Rollin, Roxana Petrolum Co., Tulsa, Okla.; James A. Veasey, Carter Oil Co., Tulsa, Okla. Casinghead gasoline manufacturers: Chairman, John Kane, Phillips Petroleum Co., Bartlesville, Okla.; S. S. Smith, Roxana Petroleum Corp., Tulsa, Okla.; E. L. Peck, Empire Gas & Fuel Co., Bartlesville, Okla.; J. R. Freeman, Carter Oil Co., Tulsa, Okla.; C. C. Herndon, Skelly Oil Co., Tulsa., Okla.

REPORTS SHOWING IN CENTRALIA DEEP SAND

CENTRALIA, Ill., Apr. 9.—George M. Timberlake, of the James Oil Co., reports a good showing of oil in the company's deep test on the McIntosh land, 2½ miles northeast of this city, at a depth of 1,722 feet. The well has not been completed.

The first sand was found at 1,605 feet and was dry; second sand at 1,625 feet with a small showing of oil; and the deepest sand at 1,722 feet. The hole was carrying 1,700 feet of water from an upper stratum when the third sand was drilled into, Mr. Timberlake said, but there was sufficient gas to bring the oil to the top. The sand had been drilled in 10 feet.

SUIT TO RECOVER TAX PAID

OKLAHOMA CITY, Okla., Apr. 10.—State Auditor C. C. Childers announces appeal from the decision of U. S. District Judge John H. Cotteral that the State cannot collect a gross production tax on oil and gas produced on restricted Indian lands operated under leases granted by the Secretary of the Interior. Suit was brought against Childers for $20,000 by the Gibson and Zahniser Oil Corp., which operates on the oil producing allotment of Miller Tiger, Creek Indian, in Okfuskee County. A lease was obtained in 1919 and since oil was discovered the corporation has paid $20,000 in taxes under the 3 per cent gross production law. The corporation obtained a judgment for that amount.

To Authorize Leases On Lands Reserved For Indian Schools

By Charles E. Kern.
Washington Bureau
The Oil and Gas Journal

WASHINGTON, D. C., Apr. 10.—Senator Harreld, from the Committee on Indian Affairs, has submitted a favorable report on House bill 7752 to authorize the leasing for mining (oil) purposes of land reserved for Indian agencies and school purposes. It is recommended by the committee that this bill, which has been passed by the House of Representatives, be passed without amendment.

Except in the case of the reservation on which special legislation has been enacted, there is now no authority of law to lease for mining purposes land on Indian reservations which has been reserved for Indian agents or school purposes. This includes drilling for oil. In explanation of the necessity for this law, Secretary Work says:

"There being oil and gas development in the neighborhood of the school, this department authorized the superintendent of the Five Civilized Tribes to offer the land for lease for oil and gas mining purposes for a period of five years and as much longer thereafter as oil or gas is found in paying quantities, with a provision that in no event would the lease extend beyond the time title to the land is in the Seminole Nation. A sale was duly advertised and the lease offered at public auction on July 22, 1925. No one would submit a bid on account of the limitation that the lease would not extend beyond the time title to the land was in the Seminole Nations. The superintendent permitted that particular provision to be stricken from the lease with the explanation that the lease as changed would be subject to approval by this department before becoming effective. A number of bids were then submitted, the highest being a bonus of $86 an acre or a total of $27,520, one-fourth of which was deposited in the superintendent's office. Since this department did not have authority to approve a lease without a limitation as to time, it was necessary to reject the sale and authorize the return of the money to the bidder, although the bonus and any subsequent royalties on production could have been used to great advantage in connection with conducting the school.

REDUCES JUDGMENT

WASHINGTON, D. C., Apr. 10.—The U. S. Court of Claims has reduced its judgment rendered against the Standard Transportation Co., a subsidiary of the Standard Oil Co. of New Jersey, of $2,338,481.08 by a reduction of $1,115,940.65. The court holds the former judgment was excessive because there was a failure to reduce the judgment by the amount already received by the Shipping Board in connection with the Government's requisitioning four tankers owned by the Standard Transportation Co. in 1917.

BUY WOLFE HOLDINGS

BRADFORD, Pa., Apr. 10.—Byron D. Wolfe, attorney of this city, representing the Wolfe Oil Co., has sold the oil property of that company, consisting of 110 acres of land in fee and 40 wells at Rew, to Fred D. Gallup and George Bovaird, Jr., of Bradford and Orlo J. Hamlin and E. G. Potter of Smethport.

GOOD YEAR AT WINNIPEG

CHATHAM, Ont., Apr. 10.—The annual report of the North Star Oil Co. at Winnipeg, showed net profits of $131,490, its best year. While the gasoline market was somewhat unsettled, a fair margin of profit was maintained throughout the year. Directors were elected as follows: President, C. W. Fillmore, Winnipeg; vice president, T. N. Clayton, Winnipeg; directors, S. Messer, Oil City, Pa., and W. T. Gwyn, Winnipeg.

NATIONAL GAS ENGINE MARKET FOR UTILITIES

(Continued from Page 72)

Fifth, the essential nature of the business in itself affords some assurance of continued operation and hence of continued use of the facilities of the utility.

Sixth, is the fact that gas for this purpose can be sold in competition with other power rates appreciably above the usual surplus industrial rates used to build up summer loads.

Example of Effect on Yearly Load Curve

For the purpose of illustrating the effect of the engine load on the yearly load curve, data was taken from one of the smaller divisions of the Southern California Gas Co. as being typical. The total load was segregated into three classes, namely, industrial, which is mainly surplus, gas engine, and the remainder, called domestic. In April, which was a rainy month, the engine load decreased as the domestic load increased. This was not the case with the industrial load. Throughout the year the domestic sales were about 69 per cent of the total sales, but in the summer months domestic was only about one-third of the total. Further, although the industrial sales were greater than either of the others during a portion of the summer, the gross revenue derived from engine sales was substantially the same as that from industrial sales. In fact, engine sales were little more than half of industrial sales, while the revenue was 20 per cent greater than industrial. This gives some idea of what can be done in the way of a summer load with gas engines. The further fact that engine business causes very little trouble to the utility is an added advantage.

General Operation of Gas Engines

In the popular opinion gas engines do not hold a very high place. They are considered unreliable, subject to shutdown from numerous causes, liable to excessive repairs, difficult to start, and subject to constant attention. All of this is the result of experience with old types of engines using liquid fuel, of high speed engines on constant loads, and of the uniformly sad experience with engines operating on continual overload.

Actual data collected over a year in one section discloses that gas engine shutdowns from all causes totaled about one-seventh of the shutdowns of the electric power for the same period, and the total time of shutdown was in approximately the same ratio. One installation of nineteen 160-horsepower engines driving compressors experienced forced shutdown due to both engines and compressors of only 0.2 to 0.3 of 1 per cent. Thus, contrary to the general belief, gas engines are one of the most reliable sources of power. This fact will prove itself if given an opportunity. For example, an ice company installed a 120-horsepower engine and operated it a season without a shutdown. The result was the installation of another engine to operate a companion compressor the following year. This sort of operation is not confined to new engines. One water company operated a 4-year-old engine for eight months last year, pumping water at a reasonable load 24 hours a day without a shutdown from any cause, thus covering the season's run. These examples are mentioned, not to give the idea that they are unusual or remarkable, but to prove that such service can be obtained consistently with reasonable care.

Experience has taught us that engines 20 and 25 years old, properly cared for and given reasonable attention between season, will operate season after season with very small repair bills. In fact, engines not operating continuously will run much more than 25 years with proper replacements and repairs. In other words, salvage value at the end of 20 or 25 years is considerable, and in all fairness should be given consideration when comparing with other sources of power.

Life of An Engine

Nevertheless, in sales work we often figure the life of an engine as 20 years, showing depreciation in the statement of overhead as inseparable from repairs. That is, an engine will depreciate much faster than it otherwise would if adjustments and repairs are not made as needed. Sometimes an incompetent operator in charge of plants will let his engines run for a few years and not make the necessary replacements. This makes a fine record for him, but when he leaves and a new man takes his place, one who insists upon keeping his engines in good condition, the record of repairs takes a sudden and apparently unwarranted jump. Therefore, it is well to recommend that a definite per cent of first cost be set aside each year in a fund to care for repairs. If this is not done a situation such as this may result. An engine will run for a few years with minor repair expense, which pleases the owner and leads him to expect it of the engine. Then some more expensive replacement or repair finally becomes necessary, and having no fund set aside for the purpose, the owner becomes disgruntled at the unusual expense and forgets the previous good record. Therefore, allowing 20 years for the life of the engine, depreciation and repairs should be taken as 8 per cent a year.

As for the time-worn subject of hard starting little need be said. A modern installation is invariably equipped with an air starting unit, which consists of an air tank and a small compressor, driven either from the wheel of the engine, or better by a small engine direct.

Improved Engines Now

The four outstanding features of improvement made in recent engines, namely, high tension ignition, forced feed oiling, throttle governing, and air starting, have so changed engine operation that modern engines are no longer comparable with old engines. Furthermore, properly installed, gas engines need not be a nuisance because of the constant banging that all of us usually associate with engines. Proper muffling is not expensive, does not materially affect operating, and the result is that engines operate even in the cities without causing any annoyance.

For one to make the statement that the modern gas engine requires no care is of course absurd, but it is surprising to those not acquainted with the facts to find how little attention is required. Not only that, the modern gas engine does not require a high priced and skilled attendant. It is unusual, even in plants with 15 to 30 engines operating, as they do in the fields, to see more than one man around. As for the smaller companies operating several units scattered about, sometimes a mile or more apart, the majority of the pump houses are kept locked most of the time. A man appears two or three times a day to oil the pump and satisfies himself that the engine is functioning properly, locks up and goes about his work.

One case comes to mind in which one man operates five plants, the farther plant being nearly two miles from the house, and he is the only man on the job night or day. In another case a certain water company 18 years ago installed a 90-horsepower engine about a half mile away. Six years later they installed a 75-horse power engine about a half mile away. Eight years from that date they installed an 80-horsepower engine about a half mile from the second plant, or a mile from the first. One man operates the plants in continuous seasonal operation and in addition is in charge of distribution for the company, in which capacity he makes a round trip of 15 miles each day. That is the sort of operation that can be accomplished with gas engines, because the fuel supply is constant, gas does not foul the engine as does liquid fuel, and the design is such as to afford safe continual operation. Knowing these facts is not sufficient. They must be proven to the power user, and the best way is to let him talk with engine operators and owners.

Types of Engines Encountered

Engines usually encountered may be classified as follows:

1. Slow speed engines with head and mixing box designed for gas.

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The Plant Manager, Chief Engineer and other Operators know they will receive a continual flow of production power from Mechanical Units packed with Garlock Packing. There will be no cessation of operation through Packing Failures. This state of mind is characterized by reliance in the commodity and is summed up as Confidence.

The Confidence Factor in Garlock Packings, is the result of a manufacturing and service policy, established nearly a half century ago, to supply only "Quality Controlled" products and to guarantee them to give complete satisfaction.

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Let your cost sheets prove the value of these special oil well balls

BEFORE the development and introduction of the Hoover Special Oil Well Ball to the industry, operating executives were constantly confronted with the spectre of high costs resulting from the unsatisfactory service of old type balls. Replacement costs of balls, resulting from failure, was colossal. But even more costly was the huge toll exacted by high labor costs in pulling a well, the loss of production, idle working equipment, mounting overhead charges and more important still, the loss of production profits.

The introduction of Hoover Special Oil Well Balls has definitely reduced the costly toll levied by production losses. Hoover Special Oil Well Balls have proved their value under the exacting requirements of oil well service in the different fields.

Of the millions of Hoover Special Oil Well Balls, in the one size which has proved the most popular in the oil industry, shipped in the five year period since their introduction, not a single complaint of failure or dissatisfaction has been registered. In the five year period since their introduction to the oil industry not one single Hoover Special Oil Well Ball, in this popular size, has been returned to the factory for any reason of failure in service.

Today, Hoover Special Oil Well Balls are used as standard equipment by practically every American and Canadian manufacturer of oil well equipment.

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2. Slow speed engines converted from liquid fuel to gas.
3. High speed, multi-cylinder engines of the tractor type.
4. Automobile engines using gas as fuel.

The most economical, and in the main the most satisfactory engines are the slow-speed engine designed to use natural gas by having properly designed mixing boxes to afford good fuel economy. Converted liquid fuel engines can be made to operate fairly satisfactorily from a point of fuel economy, but the conversion must be properly done. Too often this is a matter given very little consideration, and the result is that a great many converted engines give only mediocre results at best.

With the exception of a few of the older types, most liquid fuel engines operate with a compressor pressure in the neighborhood of 80 pounds per square inch. These engines will operate on gas as they stand, but invariably with a high fuel consumption, and often with a decrease in horsepower. The reason is that the engines are designed to give rated horsepower with a practical maximum of power from the fuel-air mixture. In other words, the compression of the firing mixture is such that excessively prolonged flame, propagation is done away with and the speed of the combustion reaction is increased as nearly as conditions will allow to the point of detonation. Of course, detonation is avoided. Under these compression pressures the gas-air mixture produces prolonged flame propagation, often burning even at the point of exhaust and causing considerable trouble. The consequence is that the explosive power of the mixture is not utilized. It is therefore necessary to increase compression pressures to 100 to 110 pounds per square inch, depending on the engine design and the nature of the gas. Knowing this, it is a comparatively simple matter to determine the amount by which the active combustion chamber space must be decreased to provide the desired pressure. In general it is desirable to keep the mean effective pressure as low as possible, considering the design of the engine and the horsepower required. In most engines, if the pressure is determined properly, no appreciable change in horsepower will be noticed.

Design of Engine

The design of the engine determines to some extent the best means of increasing the compression pressure. A few engines provide a means of moving the piston forward in the cylinder. However, it is usually found necessary to insert a piece of metal or a plate, shaped like a scale weight or thick horse shoe. This may be bolted either to the inside of the chamber head or to the head of the piston. Not infrequently the change in pressure by this means will necessitate a slight change in timing. If this small matter is not checked fuel consumption in some cases may still be excessive.

High speed engines operating on continuous loads are not as a rule to be recommended. There are loads under which they will function fairly well, but ordinarily the fuel consumption is high compared with other types. Furthermore, they require more constant attention, more periodic care and more repairs. Despite these disadvantages it is remarkable what such engines will do operating season after season, particularly considering the fact that many of them are old automobile engines picked up at a very small cost. As stated, fuel economy is not good, but the low first cost makes it possible to operate them and replace them, if conditions are such that they can be given the necessary attention. However, from the standpoint of the utility they are not satisfactory. For example, suppose a man thinks he is willing to operate an automobile or tractor engine to avoid paying for a better one. He may get along fairly well for a year or two and then he suddenly decides that he is tired of fooling with it. Then it is that an electric motor may be installed, while the utility's facilities lie idle, and the revenue is lost. On the other hand, if a man has invested in a better engine he will care for it properly, will usually keep closer account of his costs, and when time comes for a new engine he will have years of consistently satisfactory service. Under these conditions he is himself the utility's best protection for continued business.

Gas may be used in tractor and automobile engines with comparatively little trouble. In some cases the carburetor is removed and gas is fed through a dial cock and engine check valve at six to eight inches of water column pressure, or even less. In other cases a small hole may be drilled in the wall of the carburetor above the needle valve and gas connection made at this point. With this arrangement it is possible to start the engine on gasoline, or even to run on gasoline if desired. By turning the gas valve on and the gasoline off the engine immediately operates on gas. Such small units equipped with self starters are very handy for driving small electric welding generators, and the like, particularly if equipped with a throttle governor operated with an electric magnet so that as the load suddenly varies the throttle is opened or closed. However, these causes are unusual and not of any particular consequence in a consideration of the business as a whole.

From the large difference in first cost any saving which there may be must be operative for a considerable length of time in order to overcome the difference in initial investment.

Overhead and Operating Expenses

Cost of operation includes the following items:

Fixed charges (a) interest; (b) depreciation; (c) repairs.

Operating charges (a) fuel; (b) lubrication; (c) labor.

In the case of an engine, the owner installs it only after he has satisfied himself that it will pay for itself within the assumed 20 years of its life, or at the rate of 5 per cent each year, and also net him a return over and above that 5 per cent. Otherwise he would better use a motor.

Therefore, since the engine is paying for itself at the rate of 5 per cent a year and netting a fair additional return, it is only right that a depreciation fund should be built up each year. If such a fund is not established, then the money is being used in the business in some other capacity and should be expected to be able to return at least a normal interest rate. Hence, setting aside, on the books at least 5 per cent of the first cost each year, and crediting it with the normal interest earning power, the total interest earned for the period of the life of the engine will just equal interest at the same rate charged against the engine year after year as it depreciates. Depreciation and repairs may be assumed to be 8 per cent a year.

Gas Costs

Gas costs are, of course, varied both as to rates and sliding scale of rates. In a few cases small engines are paying the regular gas rate. Usually, however, the rates are from 55 cents to 30 cents, decreasing by blocks from 45 cents to 30 cents, or in some territories, straight 30 cents and even 20 cents per 1,000 cubic feet. A good engine may be expected to give a thermal efficiency in the neighborhood of 25 per cent and a mechanical efficiency of about 90 per cent when operating at its most efficient load. Under these conditions a slow speed engine designed to use gas and having a properly devised method of mixing gas and air will develop a brake horsepower hour on 9,500 to 10,000 B.t.u. available in the gas. Hence it is safe to assume that with 1,000 B.t.u. gas an engine will develop a brake horse power hour with 10 cubic feet. With richer gas the consumption will be less, but 10 cubic feet has been used as the basis of comparison.

A slow-speed engine properly designed and properly operated, may, by using filtered oil, obtain 3,000 and more horse power hours of operation per gallon of oil, which should cost from 20 to 35 cents per gallon. High-speed engines will use much more oil, sometimes reaching a con-

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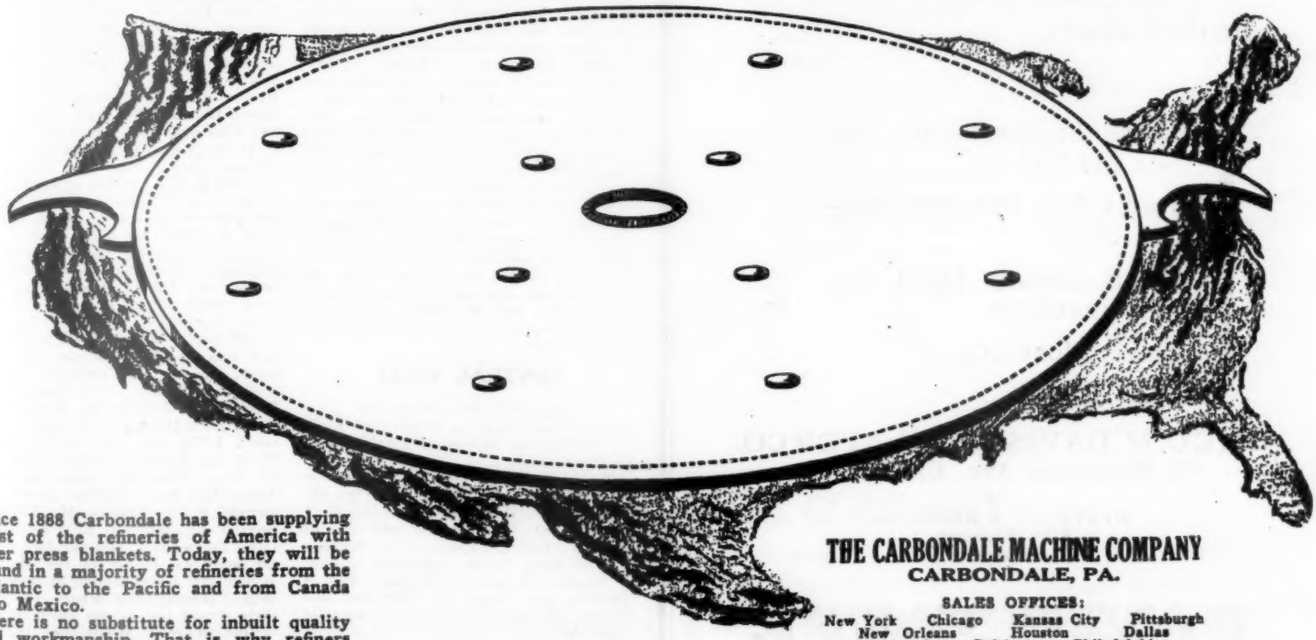

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sumption of one gallon for each 700 or 800 horsepower hours. Other engines vary between the two extremes. For comparison a consumption of one gallon of oil, costing 40 cents per gallon was used for each 1,000 horse power hours.

Based on the consumption at full load this is a fuel consumption efficiency of 98 per cent. At 75 per cent the efficiency is still 95.7 per cent. At 62.5 per cent load the efficiency is 90 per cent; at half load 83.5 per cent and at quarter load 60.9 per cent. The normal range of variation in an engine load is small, but even if the engine were to operate at only 62.5 per cent of full load, the fuel efficiency decreases only 10 per cent.

There is another matter which should be considered. In case it may be desired to operate an engine at half load, it is not necessary to reduce the efficiency to 83.5 per cent. Assuming rated speed to be 200 revolutions per minute, it is entirely feasible to decrease the speed to 100 revolutions per minute. The result is that the rating of the engine is halved. Under this condition the fuel consumption per hourse power hour will remain substantially the same as it was at full load. The same thing may be done for other loads between full and half load.

Consequently, the flexibility of an engine with almost no increase in fuel consumption per brake horse power hour is one of its most desirable features.

Summary

One may know from the foregoing discussion that the gas engine business is established and no longer may be considered of doubtful value. It will be with us for years to come. New business, however, requires that men be on the alert for productive power users constantly.

One of the best means of retaining engine business already on the lines, of helping toward the replacement of worn out engines, and at the same time of obtaining information leading to future business is the employment of a service man. Two of the Southern California companies each have an engine service man who periodically visits the plants operating. His services consist of checking the operation of the engines for consumption and general condition. If small adjustments are found necessary he may be in position to make them. The idea is not to maintain a free service bureau, however. If necessary adjustments are such that they can not be readily made, or if more major repairs and changes are required, the owner is advised. In any case a report is made to the owner and to the gas company. In some cases a report is also made to the engine company whose engine has been inspected. This gives all concerned a working knowledge of prevailing conditions, and often avoids serious trouble which might soon develop if not taken care of at the proper time. This service is greatly appreciated by the majority of the engine owners, and has been found to be a good investment on the part of the utility. As in all things today, service seems to be the keynote, and the engine business is well worth protecting at such a relatively small cost.

CENTRAL WEST

(Continued from Page 68)

Leldorf farm along the Toledo and Findlay trolley line between Perrysburg and Bowling Green.

Northwest of Findlay, in Portage Township, Hancock County, the Ohio Oil Co.'s No. 8 well, 200 feet from the south line and 600 feet from the east line of the C. L. Turley, mapped as the William C. Cox farm, in the northwest quarter of Section 27, pumped 20 bbls. Top of Trenton was struck at 1,333 feet and drilled 127 feet in to a total depth of 1,460 feet.

Word comes from Minster that the Rock Oil Co.'s well on the Clemens Enneking farm, Section 28, Jackson Township, Auglaize County, and north of Minster, tapped the pay sand and the hole filled up 800 feet with fluid in 40 minutes meaning that the well will be above the average for that section.

Just as soon as the roads dry up new development work will start in the Payne Field of Paulding County as well as across the State line in Maumee Township, Allen County, Indiana. Very little was accomplished in this area during the winter. The same conditions prevail in parts of Mercer, Shelby and Darke Counties to the south of the old field.

Central Ohio

The Central Ohio Field has been rather quiet during the past few weeks and completions are slow on account of high water in the streams and in the valleys. A total of seven wells are reported, of which three are oil producers with a flush of 40 bbls., and four are gas wells. In the offside area there are eight completions with two oil wells credited with 195 bbls. flush, five dry holes and one gas well. Six new wells have started spudding and four locations have been staked.

In Sullivan Township, Ashland County, the Klise-Eckstein-McCann Co.'s second test, 325 feet from the south lnie and 940 feet from the west line of the S. Sponsler 139 acres, Lot 100, is a fair gas well.

In Monroe Township, Holmes County, the Ohio Oil Co.'s second venture on the southwest corner of the C. E. Carpenter 100 acres, Lot 24, is reported good for 15 bbls. Top of sand at 3,520 feet and drilled 42 feet in. The Arkansas Fuel Oil Co.'s second test, 300 feet from the north line and 1,300 feet from the east line of the William Miller 154 acres, Lot 11, is said to show for better than 1,000,000 feet of gas and 10 bbls. oil. The Ohio Fuel Gas Co. made a location for a test on the northeast corner of the Lizzie Ramnacher 79 acres, Lot 16.

The wildcat venture of the Logan Gas Co., 300 feet from the south line and 650 feet from the west line of the George W. Brown 80 acres, Section 11, Richland Township, Holmes County, is credited with 15 bbls. flush and opens what may prove a good sized area of new oil development work. The Empire Gas & Fuel Co. staked a location for a second test, 375 feet from the south line and 924 feet from the west line of the D. Netherow 162 acres, Section 10, Hardy Township, same county. In Kilbuck Township, same county, the Ohio Oil Co. is drilling a second test, 695 feet from the south line and 660 feet from the west line of the Rachael Mohn 74 acres, Lot 19.

In Carthage Township, Athens County, the Fairfield Gas Co. has an average gas well at its No. 3 well, 538 feet from the south line and 944 feet from the west line of the McKinley 101 acres, Section 2. The gas was found in the Keener sand. R. E. Hamrick and others' second test, 200 feet from the north line and 1,360 feet from the west line of the C. D. Swartz 46 acres, Section 36, is an average gasser from the Maxon sand. Jay Oil & Gas Co. has started the drill at No. 9 well, 3,550 feet from the north line and 250 feet from the east line of th J. E. Bailey 180 acres, Section 5. In Waterloo Township, same county, Gunther and others made a location for a second test, 1,700 feet east of the northwest corner of the Lafayette Hewitt 63 acres, Section 33.

Bell Brothers' second test in the southeast corner of the William Johnson 125 acres, Section 4, Newcastle Township, Coshocton County, is a light gas well. This firm is drilling No. 10 well on the Cassingham-Heabig tract, Section 11, located 1,270 feet west of the Mohican River and 1,220 feet north of Oil Creek. In Perry Township, same county, the Logan Gas Co. is drilling a second test on the E. R. and O. M. VanWinkle, Section 15, and the Klise-Eckstein-McCann Co. made a location for a test in the northeast corner of the Marion G. Wright 200 acres, Section 21, same township. Murphy and others are drilling their second test in the southeast corner of the Wheeler Mousholder 163 acres, Section 15. This is the farm on which the recent 165-bbl. well was completed in the Niagara lime, but is reported to have declined its production very rapidly. This is usually the case when any oil or gas is found in this lime.

The East Ohio Gas Co. made a location for a second test, 400 feet from the

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north line and 1,450 feet from the east line of the C. W. and L. B. Frick 80 acres, in Section 21, Milton Township, Wayne County.

Illinois

Five completions, three of which are oil wells with a flush combined production of but 18 bbls., and two dry holes, make the Illinois Field look rather on the downward grade but the weather was such that little could be accomplished by the drill and those that were drilled were in the older sections.

In the Casey-Westfield area of Prairie Township, Clark County, the Ohio Oil Co.'s No. 23 well, 1,050 feet from the south line and 1,010 feet from the east line of the east 120 acres of the J. S. Phillips farm in the northeast quarter of Section 18, showed close to 3 bbls from the shallow pay at a total depth of 550 feet.

The Ohio Oil & Silurian Oil Co.'s No. 10 well, 215 feet from the south line and 600 feet from the east line of the E. D. Culp farm, in the southeast quarter of the southwest quarter of Section 19, Oblong Township, Crawford County, was drilled to a total depth of 960 feet then plugged back to a pay found at 897 feet where it shows 5 bbls. The Peoples Banking & Trust Co.'s No. 9 well, 660 feet from the south and east lines of the Henrietta M. Wilson farm, in the northwest quarter of Section 21, same township, was dry at 1,052 feet. Craig, Lowrie and others' No. 11 well, 200 feet from the north line and 650 feet from the west line of the Randolph Weger farm, in the northeast quarter of Section 15, Honey Creek Township, same county, is a 10-bbl. pumper at 1,040 feet.

Only one completion is reported from the Wabash County Field and that is the wildcat venture of Leighty and others in the southeast corner of the Harrison Buchannan farm, in the northeast quarter of Section 33, Wabash Township, near the Wabash River, a little south of the hamlet of Patton, which was a duster at a depth of 1,600 feet.

The wells across the river on the Indiana side of the Wabash in Decker Township, Knox County, are lying idle until the water goes down.

The only really interesting development anywhere in Illinois is centered in Wabash County, in Wabash and Friendsville Townships, and numerous wells in both townships are due for completion. Some of these wells have been delayed by bad weather. Oil was struck in a well on the Robert Yelton farm, Section 5, Friendsville Township, on the edge of the old field known as the Biehl Pool and to the north of the Wright Pool in the northern part of the township, one-half mile south of the hamlet of Orio. The Yelton well was drilled by Bell Brothers of Robinson. The top of the sand was struck at a depth of 1,527 feet. The cap rock was merely cracked when the oil began to show up in the hole and soon filled up 1,100 feet. Due to caving of the sand it was necessary to run another string of casing and when this is done the drill will penetrate the sand to a greater depth and until then the flush production will not be known. This well is not in entirely new territory, since it was drilled on the upper edge of the old field and not far from a light producer near the edge of the old field. The high elevation of the sand leads to the belief that good producing territory has been found. With the Yelton well to the south of Orio and the Jenner well to the north nearing the sand there are prospects of an extension. The Jenner well is across the line in Lawrence County and quite a distance in advance of production. Should this well prove a commercial producer it will cause a rush of the drill in Lawrence County as well as in the northern part of Wabash County.

In the Friendsville area of Wabash County, the top of the rig was pulled out in drawing the casing from the dry hole on the Jabez Taylor farm, Section 7, Friendsville Township. The rig will have to be rebuilt to pull the casing and will then be moved to the Edward Hartwick farm, in the northeast quarter of Section 25, Friendsville Township, and just southwest of the good well on the Ezra Bass lease. Unknown parties have started a well on the Armstrong farm, east of the Madden farm, Section 7, Wabash Township, in the Allendale Field.

Word comes from St. Francisville, a river town in Dennison Township, Lawrence County, that Frank H. Brown and Son, of Hillsboro, Ill., who have secured leases on a block of 1,660 acres of land adjoining and lying northeast of the town, have moved a rig to the Mrs. George H. Highsmith 120 acres, mapped as the C. W. Parkinson farm. The well is just east of the Litherland and England plots and midway between the Billet Highway and the Wabash River.

Sam Helck states that a test well will be started soon, the location of which is on top of the hill on the James Helm farm, 2 miles northwest of Grayville, in the northeast corner of White County and directly south of Wabash County. The location was staked out by H. C. Stratton, an oil geologist. A local company is being financed by the business men of Grayville and the new company will be named the Grayville Oil Syndicate.

KENTUCKY-TENNESSEE

(Continued from Page 68)

B. Powers tract in the Swope Pool, 400 feet south of No. 1 same farm. Bolling & Loman Brothers are due in with a second well on the J. R. Ellis 150 acres.

Warren County

Two small strippers are reported from the Warren County Field as well as two dusters.. Muddy roads have brought about a slowing down of operations all over this county.

Roy Hogan's No. 8 on the Ford lease is estimated at 3 bbls. and Wiles and others' No. 3 Shannon lease at 2 bbls. Caskey & Pryor's No. 7 D. R. Price tract is reported dry at 457 feet, as is Orrin Wood's No. 5 J. G. Barbee tract at 510 feet. About 10 strings of tools are running in the Bowling Green Field which should be doubled within a few weeks.

Other Developments

Louisiana operators are reported starting two wells on the Grider lease in the Crocus Creek Pool, near the Cumberland-Adair County line, in the Hopewell district.

Due to inability to get through the fields in Allen County no new completions are reported. The White Plains Oil & Gas Co.'s No. 21 on the W. B. Tabor lease, reported dry, showed to be a 1-bbl. producer. M. S. McHail and others have started a second test on the Earl Oliver lease. At the last report the No. 7 on the A. A. Davenport lease owned by J. B. Hinton had reached a depth of 750 feet. Lee Moore is reported shut down at No. 5 on his own farm. Rickman & Larmon are nearing sand with No. 14 I. H. Rickman lease. West Penn Oil Co.'s No. 12 G. W. Pearson; M. A. Stohr's No. 6 W. L. Motley No. 1 farm and the American National Bank Co.'s No. 13 Phoebe Oliver, are all due for completion.

Eastern Division

Mud, water and bad weather in general are holding up operations in all parts of the eastern division of Kentucky, otherwise there would be a great activity displayed. All lease owners are anxious to get work started as they realize 1926 should develop this into one of the best years in the industry.

Considerable attention is directed to the gas areas of the eastern half of the state, especially in Floyd, Martin, Knox and other counties as well as in Lee and Owsley Counties. Reports are that the Petroleum Exploration Co., one of the large oil producing concerns of the state, is securing right of way for a gas line from its developments in the Lee-Owsley Fields to Lexington, where arrangements have been made to supplement the local supply with gas for that city to be purchased from the Petroleum Exploration Co. This company has developed extensive areas of gas in the two counties, some wells showing more than a volume of 2,000,000 feet. The supply is too great for the wants of the company at its carbon black plant near Idamay. The company also turns out a vast amount

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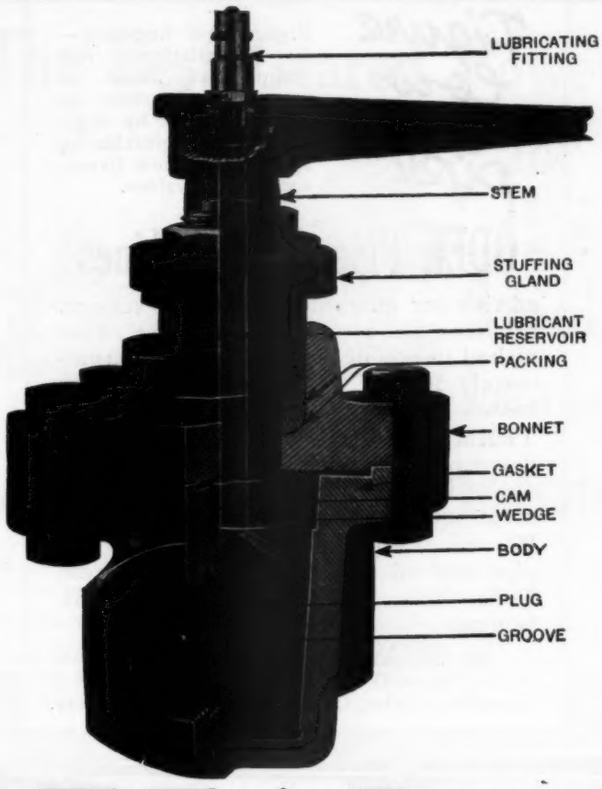

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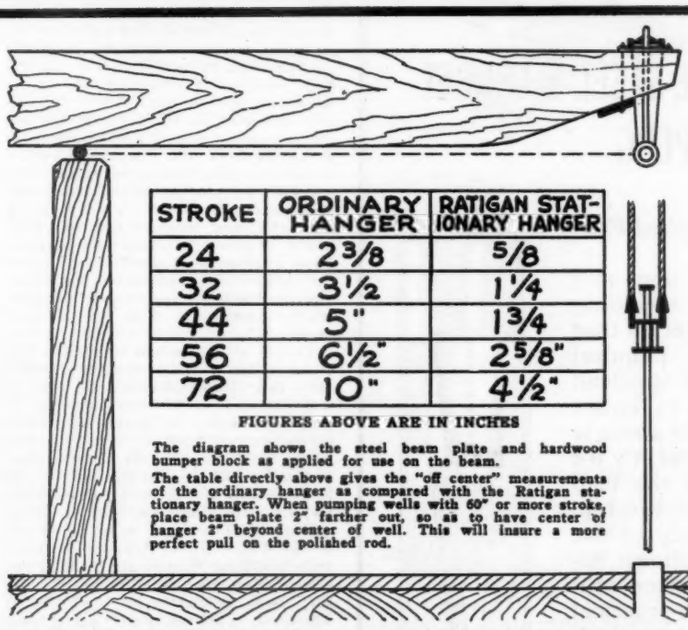

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56	6 1/2"	2 5/8"
72	10"	4 1/2"

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The diagram shows the steel beam plate and hardwood bumper block as applied for use on the beam.

The table directly above gives the "off center" measurements of the ordinary hanger as compared with the Ratigan stationary hanger. When pumping wells with 60" or more stroke, place beam plate 2" farther out, so as to have center of hanger 2" beyond center of well. This will insure a more perfect pull on the polished rod.

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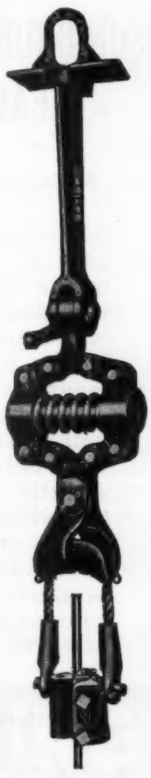


No. 1 Shock Absorber attached to No. 1-A Hanger, and No. 6 Polish Rod Grip

No. 1-A Hanger with Adapter Fitting and No. 6 Polish Rod Grip

Figure low on pipe!

Figure *low* first-cost — *low* installation — *low* maintenance. Line investment and upkeep are drastically cut by engineers and purchasing agents who know Greenspon's pipe values.

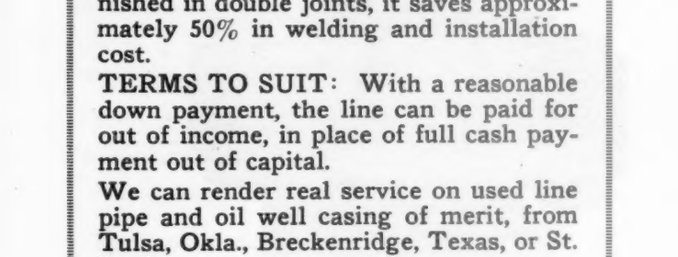
ODEE Pipe for Gas Lines

carries our guarantee of utmost service, at prices that save you 1/3 or more. Furnished in double joints, it saves approximately 50% in welding and installation cost.

TERMS TO SUIT: With a reasonable down payment, the line can be paid for out of income, in place of full cash payment out of capital.

We can render real service on used line pipe and oil well casing of merit, from Tulsa, Okla., Breckenridge, Texas, or St. Louis.

Jos. GREENSPON'S Sons Iron & Steel Co.
Home Office, ST. LOUIS, MO.
Branches: Tulsa, Okla. Breckenridge, Texas

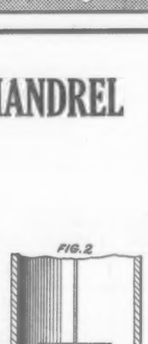


HENDERSON-DOUBLE-STEEL-MANDREL LEAD-PLUG

Patent Applied For

FIG. 1

FIG. 2



Something new and superior to any plug on the market, in that the double mandrel will expand the lead body for its entire length, while a single cone mandrel type will expand the lead body only at the top. A little study of the cut which shows before and after will convince the practical producer of the advantage of the double mandrel.

Manufactured by

The McJunkin Supply Company

Charleston, W. Va.

of casinghead gasoline which has been contracted for by other parties.

Not for a number of years has there been such a lagging of work in the Berea and Weir sand fields of Johnson-Lawrence-Magoffin Counties. The Swiss Petroleum Corp., with large acreage to develop that was secured from the Union Gas & Oil Co., holdings of Garrison & Townsend and many others, R. G. Gillespie and various other large and small concerns holding territory in the three counties, are anxious to get busy but weather conditions prevent them from making a start.

In the North Weir Field, district 33 of Lawrence-Johnson Counties, the Swiss Oil Corp.'s No. 15 on the George Evans, is reported at 20 bbls. and No. 16 on the J. M. Fyffe farm, at 10 bbls.

In the Ophir Field, district 30 of Morgan County, C. W. Wheeler and others' No. 13 A. J. Tackett is rated at 2 bbls.

To Drill Deeper

Word comes from Trimble, Tenn., that Barker & Smith, oil operators and contractors of Parkersburg, W. Va., are going to take over a test near Trimble that was drilled to a total depth of 1,305 feet and on top of the Nacotock formation. This well is reported to have a nice gas pressure, enough to show up through 1,305 feet of much, with good prospects of striking oil at a greater depth.

WILL CALGARY LEMONS TURN INTO ORANGES?

(Continued from Page 70)

lect, quoted as low as half a cent per share; though it had a small producing well, for a time the only real oil well in the Calgary Field. The Prudential Oil Co. pegged away heroically long after the boom collapsed, got a small producing well—it is still productive, I believe—ran into difficulties, and had to go into liquidation. Monarch Oil Co., in 1914 quoted at $8.50, later jumped to $45 a share on false reports of a wet gas strike. It drilled, west of Olds, one of the deepest holes in the entire territory, and the driest, was an honest and legitimate exploration enterprise from start to finish, gave its shareholders a decent run for their money, but ultimately ran out of funds and had to quit. The Union Pacific, and later the Union Pacific Consolidated, were active enterprises, as was the Stokes-Stephens Oil Co., which drilled in 1915 in the Sweetgrass Field. The generally accepted list of dead companies includes also the British Canadian, Bragg Creek, Cepeear, Mowbray-Berkeley, Piedmont, Progress, Sunbeam and Trenton. Some of these were absorbed into either the Alberta Petroleum Consolidated or Union Pacific Consolidated mergers, which subsequently went out of existence.

This is, of course, not a complete list. It is, rather, a list of companies which gave their stockholders a real run for their money, and did some bona fide development work. A recent compilation shows, out of 1,200 or more oil companies incorporated under Alberta charters since 1912, approximately 141 still in existence. But of these 141 the great majority are companies formed subsequently to the Calgary boom, to operate in the Peace River, Athabaska, Sweetgrass and Irma-Wainwright Fields. From these figures the mortality among Calgary boom companies may be inferred. There are, it is true, some Calgary companies incorporated under Dominion charter still existent; but until the Alberta Government, following the boom, imposed a policy of drastic regulation, the provincial charter was preferred by promoters.

Many Into Mergers

A number of companies organized at the time of the Calgary boom have gone into mergers which are still more or less active. Thus the Alberta Pacific Consolidated (not to be confused with the Alberta Petroleum Consolidated) includes the Alberta Pacific, Acme, Commercial, Ottawa and Millarville companies; the present McLeod Oil Co. took in the Mount Stephen Oil & Gas Co.; the Mill City Oil Co. absorbed the Record and Tongue Creek companies, and, with them, took over a 4,300-foot hole; and the Midwest took over the Northwestern Pacific and Western Pacific companies. All these companies have wells pretty far advanced, though not all of them are actively drilling, and their stocks are quoted —Alberta Pacific Consolidated up to 60 cents, McLeod at $9, Midwest at $1.75 and Mill City around $1.

The old Calgary Petroleum Products, Ltd., was, some years ago, merged in the present Royalite Oil Co., whose stock, on the strength of the performance of Royalite No. 4, has soared from a nominal $25 a share to a perhaps rather speculative $650. The London Union, another 1914 company, was also included in the Royalite merger; in which Imperial Oil, Ltd., however, holds a controlling interest.

A more recent merger involved the taking over by the Dalhousie Oil Co. of the Southern Alberta group. The Southern Alberta Oil Co. got actual oil production, as did an allied enterprise, the Alberta Southern Oil Co.; and the Southern Alberta Refineries ran a small "topping" plant and marketed the product. Both the Southern Alberta Oil Co. and the Southern Alberta Refineries paid dividends at one time. All three were merged in Southern Alberta Oils, Ltd.; and the Dalhousie Oil Co. has now absorbed the entire outfit, with Imperial Oil, Ltd., holding a controlling interest in the new enterprise. Southern Alberta No. 1 and Alberta Southern No. 1 are to be deepened to test the Madison limestone; and until this work is completed, the current stock quotation of around $7.75 on Dalhousie may be fairly regarded as based rather on prospects and management than on performance. What the company will get as a result of deeper drilling only the drill itself can tell.

Newer Incorporations

Of the companies whose stocks are currently quoted on the Calgary exchange, 15 are companies incorporated since the boom. Their stocks won't be dug out of trunks or attics for hopeful inspection. McLeod, Midwest and Illinois-Alberta, also actively quoted, are either mergers of boom companies or relatively new ventures, which entered the field since the original Calgary boom collapsed. The McLeod and Illinois-Alberta both have some wet gas production and are drilling deeper to test the Madison limestone; results in which are, of course, problematical.

Of the 1,014 companies, a few more have again become active on the exchanges and, most of them in actual drilling. United Oils, Ltd., whose territory in the Turner Valley Field is being developed by other companies on a royalty basis, and which also holds acreage in the Foremost gas field, is quoted up to $3.50. The old McDougall-Segur Exploration Co. has a quoted value up to $1,500, based apparently on the potential value of its acreage. Acme, quoted at 30 cents, and London Union at $1.50, are actually merged in other companies. Moose Mountain Oil Co., which in 1914 got a show of oil in one well, is again drilling, and is quoted up to 95 cents. Rose Oil Co. stands at $5.25 asked, and Security at $1.50 to $2.25. These quotations, of course, are merely tentative. Alberta Associated Oils, Ltd., is quoted at 60 cents.

There is a prospect that a few others of the 1914 companies which have maintained a more or less precarious existence in the difficult years since the collapse of the boom will now emerge into the, perhaps temporary, sunshine. Where they have kept their leases in good standing, or conserved their surviving funds, their shares will have some slight speculative value.

But even the best of the Calgary stocks, though the spectacular Royalite performance makes them rather alluring, are not for widows and orphans. They are rather for nervy individuals who in the first place duly "take heed upon what they enter" and thereafter are on the ground to watch developments and, if need be, sell when the selling is good.

N. LOUISIANA-ARKANSAS

(Continued from Page 58)

535 bbls. at 2,090-2,107 feet. Magnolia Petroleum Co.'s No. 1 Dumas, Section 9, is flowing 230 bbls. daily from sand at 2,077-97 feet. Pure Oil Co.'s No. 1 Dumas in Section 9, was put on the beam and is making 65 bbls. daily from sand at 2,069-2,105 feet. Rovenger Oil Corp.'s No. 4 Goodwin, Section 16-17-16, is flowing 30 bbls. daily through 2-inch tubing from sand at 2,105-26 feet, and Foster and associates' No. 1 Dumas, Section 9, is flowing 60 bbls. through tubing from 20 feet of sand topped at 2,078 feet. Wingfield and associates' No. 2-A Dumas, Section 9, swelled those operators' production when it was finished in sand at 2,079-2,100 feet, for a 300-bbl. well.

Atlantic Oil Producing Co.'s No. 3 Andress, Section 16-17-16, is being swabbed to test sand at 2,117-44 feet, and No. 4 is drilling at 2,050 feet. The same company's No. 1-B Andress, NW NW SW, and No. 2-B NE NW SE, Section 16-17-16, are derricks. Bond and Evans' No. 1 Kilgore, Section 4-17-16, is drilling at 350 feet. Foster and associates' No. 2 Slaughter, SW E half NE NE, Section 9-17-16, is a derrick. Imperial Oil & Refining Co.'s No. 1 Goodwin, Section 21-17-16, is a rig. Keisker and associates' No. 1 Harrell, Section 15-17-16, is drilling below the 1,700-foot level, and No. 2 Harrell, NW SW NW, is a derrick. J. P. Kelly's No. 1 Mitchell, Section 20-17-16, is drilling below the 420-foot level. Lion Oil & Refining Co.'s No. 3 Goodwin, Section 16-17-16, is drilling at 1,400 feet and the 6⅝-inch casing was cemented at 2,098 feet at No. 4. Long and associates' No. 1 White, NE SW NE, (correct location) Section 17-17-16, is drilling at 800 feet.

Ten-inch casing was set at 288 feet at the Magnolia Petroleum Co.'s No. 2 Dumas, Section 9-17-16, and No. 3 is a derrick. Same company's No. 2 Slaughter, Section 9-17-16, has started drilling and a derrick is being built for No. 3 in the NW E half NW NE, same section. Marine Oil Co.'s No. 3 Slaughter, Section 9-17-16, is shut down in sand at 2,121-40 feet, waiting for a standard rig. Miller and Cottingham's No. 2 Slaughter, Section 9-17-16, is drilling at 1,835 feet, with No. 3 trailing at 1,400 feet.

Natural Gas & Fuel Co.'s No. 3 Andress, Section 16-17-16, has 500 feet of fluid in the hole from sand at 2,111-26 feet, and is waiting for a standard rig. Six and five-eighths-inch casing was cemented at 2,100 feet at No. 4. Oil Fields Corp.'s No. 1 Dumas, Section 10-17-16, stopped in sand at 2,075-99 feet, with 400 feet of fluid in the hole showing a little water. The well is to be put on the pump.

Olvey & Jones' No. 1 Graham, Section 16-17-16, is drilling at 2,030 feet. Olvey and associates' No. 1 Porter, Section 4-17-16, is drilling at 2,550 feet. Pure Oil Co.'s No. 2 Dumas, Section 9-17-16, is down 1,600 feet. Reliance Drilling Co.'s No. 1 Dumas, Section 10-17-16, is below the 1,400-foot level. At J. D. Reynolds' No. 3 Dumas, Section 15-17-16, 412 feet of 5-⅜-inch casing was set with a packer to shut off water intrusion at 2,105 feet, and No. 4 Dumas is a rig.

Six-inch casing was set at 2,087 feet at Rovenger's No. 5 Dumas, Section 9-17-16. Six-inch casing is being lowered to 2,062 feet at Simms Oil Co.'s No. 2 Dumas, Section 9-17-16, and Simms Oil Co.'s No. 5-A Dumas, is drilling at 1,389 feet. Smith Oil Corp.'s No. 1 Dumas, Section 10-17-16, northeast of the heart of the pool, apparently is going to be completed into a nice well without the water menace that showed in offsets to the east and southeast. The well is waiting on a standard rig with 700 feet of oil in the hole from sand at 2,077-95 feet. Southern Crude Oil Co.'s No. 1 Slaughter, Section 3-17-16, is a derrick. Stock and associates, new operators in the field, are going to try to extend production one mile due east. They have a rig up for their No. 1 Dumas, NW SE SW, Section 10-17-16.

Wingfield and associates are the most active operators in the field with 11 tests all in Section 9-17-16. No. 3-A Dumas is drilling at 820 feet and a derrick is standing for No. 4-A. Six-inch casing was cemented at 2,061 feet at No. 5-A, and No. 6-A is drilling at 1,400 feet. No. 3 Slaughter is down 1,850 feet, and No. 4 is a rig. No. 5 is being swabbed to test sand at 2,073-98 feet, while the 6-inch is being set at 2,059 feet on No. 6, and No. 7 is drilling around 850 feet. No. 1-A Slaughter is in sand at 2,089-2,116 feet waiting for a standard rig, and No. 2-A is a rig. T. J. Woodley's No. 2 Dumas, Section 9-17-16, is drilling at 950 feet, and derrick has been built in the NE NE NW, Section 9-17-16, for No. 3 Dumas. Reynolds and Marr completed another small well in Section 15-17-16, in their No. 1 Mooty, which is flowing 20 bbls. from sand at 2,115-50 feet.

Five oil wells and three gas wells were completed in the Norphlet district. Keene and Woolf's No. 2 Bradford, Section 7-16-15, was finished as a 180-bbl. pumper in sand at 2,568-69 feet. Sunny Jim Oil Co.'s No. 7 Flenniken, Section 9-16-15, is pumping 200 bbls. of fluid, 10 per cent salt water from sand at 2,443-48 feet. E. M. Jones' No. 9 Murphy, Section 17-16-15, is pumping 200 bbls. of fluid, 75 per cent salt water from sand at 2,686 feet. Natural Gas & Fuel Co.'s No. 3-C Murphy, Section 8-16-15, was completed at 2,642 feet, and is making 150 bbls. of fluid, 50 per cent salt water along with 5,000,000 feet of gas.

Stewart and others' No. 1 Murphy, Section 9-16-15, was completed as a 10,000,000-foot gasser spraying salt water from broken sand at 2,619-63 feet. The rig was moved off and the location abandoned for Stewart's No. 4 Murphy. Louisiana Oil & Refining Corp.'s No. 4 Hodges, Section 7-16-15, is making 10,000,000 feet of gas from sand at 2,800-03 feet. Natural Gas & Fuel Co.'s No. 5-A Harrell Section 17-16-15, was completed in sand at 2,761-68 feet for a 4,000,000-foot gas well.

Completions in Smackover

In the Smackover heavy oil area, Moco Oil Corp.'s No. 6 Flenniken, Section 5-16-15, is pumping 125 bbls. daily from 2,355-67 feet. Custer and Nash's No. 1 Primm, Section 1-16-16, was abandoned at 2,549 feet, and the Sun Oil Co.'s No. 2 McClanahan Section 1-16-16, was abandoned at 2,587 feet.

A short string of 4½-inch casing was set at 2,645 feet at Broderick & Calvert's No. 5-B Murphy, Section 8-16-15; No. 6-B is waiting for a standard rig with 1,800 feet of oil in the hole from sand at 2,426-27 feet, and No. 7-B is a rig. J. G. Childs' No. 2 fee, Section 8-16-16, is drilling in gumbo at 2,103 feet. Constant Refining Co.'s No. 6 Burns, Section 31-17-15, is a rig. Eason and associates cemented 6-inch at 2,624 feet at No. 7 Murphy, Section 15-16-15.

Same operators whipped a fishing job at 2,540 feet and are cementing a string of 4½-inch casing at 2,646 feet at No. 3 Palmer, Section 9-16-15. Estes and associates' No. 2 Murphy, Section 15-16-15, is in 14 feet of sand topped at 2,606 feet, with 2,000 feet of oil in the hole waiting for a standard rig. Their No. 3 Murphy is drilling at 1,203 feet. Federal Petroleum Co.'s No. 6-B Lawton, Section 10-16-15, is being delayed at 2,550 feet by a fishing job. The 4½-inch casing was cemented at 2,603 feet at No. 2-B Wells, Section 15-16-15.

With 700 feet of oil in the hole from sand at 2,634-48 feet, Ferguson and associates' No. 2 Howard, Section 7-16-16, is waiting for a standard rig. Twelve hundred feet of 6-inch was dropped in the hole when casing was being lowered to 2,169 feet at Grimes and Jones' No. 1 Lovett, Section 6-18-14. Gulf's No. 17 Alphin, Section 2-16-15, is being reamed to the bottom at 2,522 feet, and No. 2 Clawson Section 14-16-15, is drilling in gumbo at 2,380 feet. Gulf's No. 37 Hardy-Murphy, Section 5-16-15, is down 2,324 feet and drilling ahead, and No. 3 McMullen, Section 1-16-16, is boring through hard lime at 2,500 feet.

Hickman and associates' No. 4 Hays, Section 21-16-15, is shut down in red

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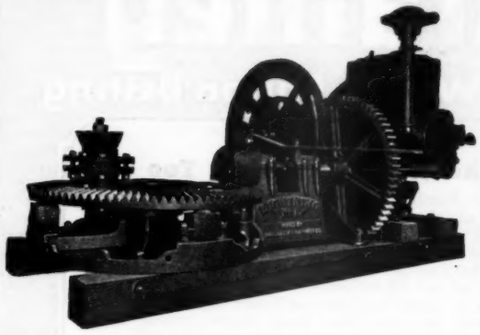

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This power will handle wells as deep as 1600 feet with surprising economy. Another feature is that rod lines hug the ground closer than with any other geared power.

Band wheel powers are burdensome for some sizeable leases—especially where the drilling-up program is delayed; or where the lay of the land does not permit a centralized power unit.

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All-Steel Polish Rod Grips

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The most powerful all-purpose grip made. Operates like a wire line drilling clamp.

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shale at 2,905 feet, waiting for orders. W. H. Harper's No. 1 Matthews, Section 34-16-16, has started drilling and the 10-inch was set at 73 feet. Howell and Knowles have a derrick up in the SE SE NW, Section 36-17-16, for No. 2 Springer. Humble Oil & Refining Co.'s No. 3-B Flenniken, Section 9-16-15, is drilling at 2,300 feet, and the 6⅝-inch pipe is being set at 2,635 feet at No. 2-B Lawton, Section 7-16-15. H. L. Hunt's No. 1 Murphy, SE SW NE, Section 33-16-16, is a rig and his No. 1 Swilley, Section 28-16-16 tested dry at 2,112 feet, and is drilling ahead at 2,202 feet.

E. M. Jones' No. 4 Murphy, Section 17-16-15, has 900 feet of fluid in the hole, 15 per cent salt water, from sand at 2,673-88 feet, and is waiting for a standard rig. W. R. Keever's No. 6 Murphy, Section 8-16-15, is drilling at 2,200 feet. Keever's No. 5 Sanford, Section 17-16-15, is waiting for the 6⅝-inch to be set at 2,497 feet.

Kennebrew and associates' No. 7 Williams, Section 3-16-15, tested salt water with a show of gas at 2,260 feet and passed it up and is drilling at 2,375 feet. Lion Oil & Refining Co.'s No. 1 Wilson, Section 17-16-15, is being cored at 2,507 feet. Long and associates have started drilling at No. 1 White, Section 17-17-16, and are down 800 feet. Magnolia is fishing for tools at 2,645 feet at No. 3 LeCroy, Section 17-16-15. Magnolia Petroleum Co.'s No. 3 Tatum, Section 7-16-15, has started drilling, and No. 4, SE SW NW NE, is a derrick. The 8¼-inch casing was cemented at 2,598 feet at Magnolia's No. 3 Hessler, Section 8-16-16.

Mazda Oil Corp. cemented a short string of 4½-inch casing at 2,606 feet at No. 3-H Lawton, Section 10-16-15, and No. 6-R, same section, is drilling at 2,300 feet. Murdock and associates' No. 2 Vestal Section 17-16-15, topped sand at 2,527 feet and is being drilled in with standard tools. Four and one-half-inch was cemented at 2,758 feet at No. 7 Vestal. Natural Gas & Fuel Co.'s No. 2 Flenniken, Section 8-16-15, is being made in readiness to test 7 feet of sand topped at 2,489 feet. Pure Oil Co.'s No. 6 Bilyew, Section 8-16-15, tested salt water at 2,292 feet and then drilled to 2,356 feet where the 4½-inch casing is being set. Pure Oil Co.'s No. 9 Friend, Section 6-16-15, is drilling ahead at 2,350 feet.

Sinclair Oil & Gas Co.'s No. 8 Flannigan, Section 6-16-15, is being bailed to test sand at 2,390-98 feet. Too much salt water in sand at 2,534 feet prompted Smitherman and McDonald to deepen their No. 2-B Sexton, Section 5-16-16. Sun Oil Co.'s No. 8 Hatfield, Section 6-16-15, is drilling at 2,398 feet. With almost a hole full of oil, Thurman and associates' No. 2 Houston, Section 12-16-16, is in two feet of sand topped at 2,556 feet, and is waiting for a standard rig. Unity Petroleum Co.'s No. 8-A Bilyew, Section 8-16-15, tested dry at 2,408 feet, and is to be deepened. Eight and one-fourth-inch casing was cemented at 2,470 feet at Unity Petroleum Co.'s No. 9-A.

Williams and associates' No. 2 Goodwin, Section 16-16-14, is drilling at 1,401 feet. Wingfield and associates' wildcat test, No. 1 Cruse, Section 27-17-16, is drilling in rock at 2,691 feet. Woodley's No. 4 Bilyew, Section 8-16-15, tested sa water at 2,416 feet and is to be core at 2,417 feet.

Ouachita County

Completions in Ouachita County were principally in the Smackover heavy oil district. Roxana's No. 5 Snyder, Section 34-15-15, was completed for a 90-bbl. well, 10 per cent salt water, in sand at 2,356-61 feet. Standard Oil Co.'s No. 23 Umstead, Section 32-15-15, was deepened to sand at 2,658-61 feet, and completed as a 40,000,000-foot gas well with 850 pounds rock pressure. Unity Petroleum Co.'s No. 9 Umsted, Section 33-15-15, is making 150 bbls. on the pump from three feet of sand topped at 2,393 feet. Calcord and associates' No. 5 Laney was finished in sand at 2,601-04 feet, pumping 50 bbls., 10 per cent salt water. Humble's No. 9 Flannigan, Section 6-16-15, was completed for a 50-bbl. pumper at 2,592 feet. Marine Oil Co.'s No. 10 Umsted, Section 5-16-15, is pumping 110 bbls. daily from sand at 2,364-68 feet.

H. M. Harrell's No. 1 Moline Timber Co., Section 32-11-17, cored salt water sand in the Nacatoch at 1,161-68 feet, and is shut down for orders. Humble Oil & Refining Co.'s No. 11-B Arnold, Section 26-15-16, bailed dry at 2,322 feet and mudded up the hole and is waiting for orders. Drillers are milling on the core barrel at 2,548 feet at Imperial's No. 7-A McClannahan, Section 6-16-15. Magnolia Petroleum Co.'s No. 12 J. Goodwin, Section 5-16-15, is waiting for cement to set at 2,358 feet. Magnolia Petroleum Co.'s No. 3 Shirey fee, Section 30-15-16, has 400 feet of oil in the hole from sand at 2,268-81 feet, and is waiting for a standard rig. A. Meek's, trustee, No. 3 La Grone, Section 36-15-17, has 1,200 feet of oil in the hole from sand at 2,281-93 feet and is waiting for a standard rig. Arrangements are being made at the Ohio Oil Co.'s No. 7 Goodwin, Section 29-15-15, to test sand at 2,614-23 feet. Pure Oil Co.'s No. 7 Brister, Section 28-15-15, is drilling at 1,160 feet. Completion of the Roxana Petroleum Corp.'s No. 4-A Bennett, Section 32-15-15, is being delayed until 2-inch tubing can be fished from 2,409 feet.

Simms Oil Co.'s No. 10 Hildebrandt, CNL E half SW SE, Section 28-15-15, started drilling April 1 and is down 1,350 feet. Its No. 5 T. Murphy, Section 29-15-15, is drilling below the 2,590-foot level. Sinclair Oil & Gas Co.'s No. 9 Flannigan, Section 6-16-15, is drilling at 2,430 feet, Southern Crude Oil Purchasing Co.'s No. 6 Joyce, Section 34-15-15, is milling on junk at 2,637 feet, and the 4½-inch was cemented at 2,349 feet at Southern's No. 4-A Umsted, Section 4-16-15. Standard Oil of La.'s No. 8-B Murphy, 600 feet north, 200 feet west, SE cor. NE SE, Section 29-15-15, is drilling at 245 feet.

Sunny Jim Oil Co.'s No. 3 Laney, Section 36-15-16, is being bailed to test 48 feet of broken sand topped at 1,962 feet. Woodley Petroleum Co.'s No. 4 Umsted, Section 4-16-15, is being cored at 2,344 feet. In the Stephens district, the Buffalo Oil Co. is drilling out the plug at No. 2 Davis, Section 22-15-19, at 1,512 feet.

Nevada County

Two new wells in Nevada County added 550 bbls. of new production to the county's output. Humble Oil & Refining Co.'s No. 3 Graves, Section 2-14-21, was completed in sand at 1,138-50 feet, and is making 450 bbls. naturally. Smitherman and McDonald's No. 3 C. W. Waters, Section 2-14-21, was finished in sand at 1,155-63 feet, and is making 100 bbls. daily on the pump. Magnolia Petroleum Co.'s No. 1 B. F. Johnson, Section 3-15-21, was abandoned at 4,600 feet.

Ten-inch was set at 21 feet at the Humble Oil & Refining Co.'s No. 4-A Graves, Section 1-14-21, and the test is drilling ahead at 500 feet. Grayson and associates' No. 1 Graves, Section 2-14-21, is drilling in gummy shale at 1,350 feet. Keystone Oil Co.'s No. 9 Waters, Section 11-14-21, is waiting for a standard rig and is in sand at 1,206-12 feet. Six-inch was cemented at 1,178 feet at Smitherman and McDonald's No. 4 C. W. Waters, Section 2-14-21. Straughn and Greason's No. 1 Tidwell, Section 22-13-21, is shut down at 1,200 feet waiting for orders.

Scattered Wildcats

In Miller County, the Buzzard Bluff Oil Co.'s test, No. 1 Munn, Section 22-14-26, was abandoned at 2,512 feet. Without any definite depth to stop Magnolia Petroleum Co.'s No. 1 Calion Lumber Co., Section 29-15-14, is drilling ahead and is going through gumbo at 4,230 feet.

Southern Crude Oil Purchasing Co.'s No. 1 Calion Lumber Co., Section 1-16-14, is being menaced by a water flow at 565 feet, which drillers are trying to kill off. Wheelen Oil Co.'s No. 1 Brown, Section 35-10-20, is shut down in hard lime at 2,270 feet. Ten-inch casing was set at 41 feet and the J. E. Crosbie's No. 1 Jones, Section 36-15-20, is drilling

ahead at 700 feet. Casing is being lowered to 3,292 feet to test at Hude and Aarnes' No. 2 Brown, Section 13-15-20. Kentucky-Arkansas Petroleum Co.'s No. 1 Peter Doss, Section 29-19-20, has resumed drilling and is going ahead at 1,870 feet.

Pluto Oil Co. cemented the 8¼-inch casing at 900 feet and is drilling at 1,000 feet at No. 2 Robinson, Section 23-18-23. Arkansas Fuel Oil Co.'s No. 3 Red River, Section 7-19-24, is drilling below the 1,000-foot level. Gulf's No. 1-E Red River, Section 10-19-24, is drilling at 1,200 feet. Humble Oil & Refining Co.'s No. 3 Bodcau, Section 19-16-23, is drilling at 700 feet. Grote and associates are still attempting to cut off salt water at 2,932 feet, at No. 1 Allen, Section 2-13-31. Mellick Oil Co.'s No. 1 Hawkins, Section 10-11-31, is shut down in hard lime at 1,753 feet, corrected measurement. Lenze and associates' No. 1 Dale, Section 25-15-26, is drilling in gumbo at 1,400 feet.

MEXICAN FIELDS

(Continued from Page 58)

hole at 2,028 feet. Transcontinental Petroleum Co.'s No. 23, Lot 9 Tanchicuin, a dry hole at 2,367 feet.

And in the northern fields in general the following obtains: Transcontinental Petroleum Co.'s No. 200, Lot 4 Cacalilao, is a duster at 2,250 feet; No. 261, same lot, is the same at 2,180 feet. La Corona Petroleum Co.'s No. 20, Lot 6 Corcovado is a dry hole at 2,368 feet. Cia Franco Espanola (Marland), Nos. 47 and 44 Limon are each dry holes at 2,350 feet. At Ebano, Mexican Petroleum Co. has four dry holes, two in San Pedro at 2,300 feet each; No. 50 Chapacao at 2,385 feet, and No. 82 La Dicha at 2,170 feet.

In the south fields, Huasteca Petroleum Co.'s No. 58 Tierra Blanca, finished a dry hole at 2,250 feet.

Northern Fields

Operations in the northern fields, the Panuco-Cacalilao district, may be summarized as follows: Corona Petroleum Co.'s No. 179, Lot 4, same place, is spudding; No. 13-A La Polla, is in the lime at 1,750 feet; No. 114 Salvasuchi, cemented 8-inch casing at 1,290 feet in gray lime. Credito Petrolero Co.'s Nos. 9 and 10 are ready to spud; No. 29, Lot 31, W. Maguabes, cemented 8-inch at 1,550 feet in gray lime. East Coast Oil Co.'s No. 35, Laguna Milpa, is in shale and shells at 1,280 feet; No. 58, same place, cemented 8-inch at 1,290 feet in gray lime and Nos. 55, 59 and 64, same place, are rigging. Itamex Co.'s No. 21 W. Maguabes, has spudded in. International Petroleum Co.'s No. 266, Lot 5, Cacalilao, is in gray lime at 1,635 feet; and No. 268, same lot, same place, is 1,821 feet, also in gray lime. Mexican Sinclair Petroleum Corp, on No. 24 Tananturo, is in shale and gumbo at 524 feet; No. 25, same place is rigging; No. 12, Lot 1, Camalote, is in gray lime at 1,940 feet, waiting on new bull wheel; No. 10 Gutierrez is in lime at 2,020 feet; No. 12, same place is 630 feet in red rock, and No. 39-C, Lot 3 Cacalilao, is in the San Felipe at 1,425 feet. Mexican Gulf Oil Co.'s No. 98, Lot 2 Cacalilao, is rigging; No. 3 Piedras, is in hard shale at 1,200 feet; No. 12 Flores, is testing at 1,900 feet in brown lime; No. 13, same place, is also testing in brown lime at 1,820 feet, and No. 11 Zuniga, is in sand at 60 feet. National Oil Co.'s Nos. 6 and 7 Herradura, are rigged. Soil Oil Co.'s No. 2 Etienne, is in gray lime at 1,725 feet. Transcontinental Petroleum Co.'s No. 238, Lot 4, Cacalilao, is running 8-inch casing at 1,200 feet in line; No. 253, same lot, same place, is in lime at 1,660 feet; No. 255, same lot, same place, cemented 8-inch in lime at 1,200 feet; No. 256, same lot, same place, also cemented 8-inch casing in lime at 1,230 feet; Nos. 260 and 270, same lot, same place, are rigged; No. 267, same lot, same place, is in gray lime at 2,095 feet; No. 57 Paciencia is in shale at 50 feet; No. 11 Piedras, is in gray lime at 1,640 feet; No. 9, Lot 14 Tanchicuin, is running 6-inch in lime at 1,192 feet; No. 12, same lot, same place, is in lime at 1,625 feet; No. 4 Peralta, is at 1,540 feet, repairing boiler. Mordelo Vincent cemented 8-inch casing at 1,680 feet in gray lime on his No. 1 Tampuche, and his No. 1 Maza, at Tamante, is in shale at 425 feet. Vera Cruz Mexican Co.'s No. 9 Buena Vista, is in gray lime at 1,825 feet. Williamson and others' No. 1 Tampuche is in gray lime at 1,765 feet.

Miscellaneous Northern Fields

Drilling operations in the different northern fields have presented no novelties, but great interest is being exhibited with regard to the outcome of the wildcat being drilled at Rayon, in the State of Tamaulipas, which, from latest reports, cemented 10-inch casing at 900 feet in gray lime. The lime was reached at the shallow depth of 670 feet.

Other operations can be cited as follows: Financiera Co.'s No. 2 Paciencia de Aguacate, is in the San Felipe at 1,630 feet. Franco Espanola Co.'s (Marland interests), No. 45 Limon, is drilling in shells at 1,514 feet; No. 50, same place, is in gray lime at 1,830 feet and No. 51, same place is, at 1,110 feet in shale and gumbo. International Petroleum Co.'s No. 1 Tanceme, is in gray lime at 5,063 feet. Mexican Petroleum Co. at Ebano report as follows: No. 45, Chijol, is in gray lime at 1,745 feet with a showing; No. 53, same place, cemented 8-inch casing at 1,240 feet in gray lime; No. 55, same place, is at 1,450 feet in gray lime; No. 3 Silva, cemented 8-inch casing in gray lime at 1,310 feet; No. 5 Silva, is in gray lime at 2,200 feet; No. 60 La Dicha, is in blue shale at 450 feet; No. 69, same place, is at 1,600 feet in gray lime; No. 70, same place, is in gray lime at 1,755 feet; No. 76, same place, is in white lime at 2,340 feet; No. 75, same place, is in gray shale at 240 feet; No. 84, same place, is in gray lime at 1,680 feet; No. 9 Midway, is in gray lime at 1,505 feet; No. 11, same place, is 1,325 feet in gray lime; No. 13, same place, is in blue shale at 355 feet; No. 12 same place, was abandoned at 835 feet in shale; No. 17 San Pedro, is in gray lime at 1,985 feet; No. 20, same place, is in shale and lime at 1,490 feet. Mexican Gulf Oil Co.'s No. 24 Chapacao, is at 2,292 feet in gray and brown lime; No. 37, same place, is in gray lime at 1,273 feet; No. 38, same place, at 1,080 feet in shells and shale, and No. 6 Caracol, is in gray lime at 1,830 feet. Mexican Eagle Oil Co., Ltd., at No. 1 San Pedro, San Luis Potosi, is in lime at 4,946 feet. The National Railways has shut down on No. 32 Chapacao, (right of way), at 1,900 feet in gray lime; No. 33, same sector, is in gray lime at 1,475 feet; No. 34, same sector, is in gray and brown lime at 2,210 feet; Nos. 35 and 36 are rigged; No. 39, same sector, is in gray lime at 1,640 feet; Nos. 40 and 43 are rigging. On the Federal Zone of the Panuco River, the National Lines' No. 31 Limon, in the San Felipe at 2,410 feet; No. 43, same place, is rigging rotary, and No. 35 Santa Fe, cemented 8-inch casing in gray lime at 1,580 feet. Grady Venable cemented 8-inch casing at 1,710 feet in the San Felipe on his No. 33 Carcacol.

Southern Fields

Operations in the southern fields have not been noteworthy, but a brief summarizing can be made as follows: Agwi Co. is rigging up to drill in the Tamiahua Lagoon. The Huasteca Co. has displayed most of the activity noted in the southern fields, and report as follows: No. 65 Cerro Azul, is in gray shale at 2,110 feet; No. 71, same place, cemented 10-inch casing at 1,706 feet in brown shale; No. 75, same place, is in gray shale at 1,640 feet; No. 63 Tierra Blanc, at 2,255 feet, is in gray shale; No. 64, same place, in hard gray lime at 1,946 feet. Locations are being cleared off by same company in Tierra Blanca for Nos. 68, 69, 70 and 71. At Casiano its No. 16 is at 2,120 feet in lime with shale streaks. International Petroleum Co.'s No. 7 at Agua Nacida, is repairing derrick at 4,385 feet. Mexican Eagle Oil Co., Ltd., is straightening crooked hole at 2,744 feet on No. 26 Alazan; No. 39, Naranjos, cemented 6-inch casing in gumbo at 601 feet; No. 26, Cerro Viejo, is 2,141 feet in the Tamasopa lime, waiting for new drill stem; No. 35, same place, is rigging

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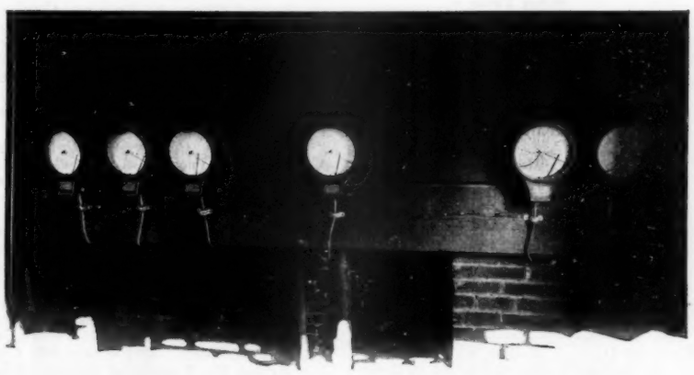

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standard tools at 2,090 feet, in gray lime; No. 38, same place, is in gray lime at 2,075 feet, and No. 1, Lot 2, Escobal, is in hard sandstone at 3,000 feet, waiting for roller bit.

GULF COAST

(Continued from Page 51)

tion Co.'s No. 166 Wing, is drilling around 1,110 feet. The Sterling Oil Co. has a location for No. 4 Hooks and the Kirby-Petroleum Co.-Capitol Oil Co. one for No. 5 Hodges on the northwest side.

In the Saratoga Pool, Paggi Oil Co.'s No. 3 Ogden is drilling around 1,000 feet, and the Rio Bravo Oil Co.'s No. 5 Fountain is below 4,000 feet. The Fountain Production Co.'s No. 1 Hope is at 1,655 feet. The Vacuum Oil Co.'s No. 3 Teel, southwest of the pool, is at 2,917 feet.

In the Sour Lake Pool, The Texas Company's No. 230 fee, is drilling around 1,565 feet. The Lake View Oil Co.'s No. 47 Hardin, is at 2,060 feet and shut down. The Peveto Oil Co.'s No. 6 Davis, is drilling around 755 feet. The Humphrey Corp.'s No. 3 Griffith is at 1,345 feet. The Humble Oil & Refining Co.'s No. 3 Myers is a location.

Harris County Pools

At Goose Creek, the Gulf Production Co.'s No. 12 Galliard fee and No. 8 State Land, are working over. The Humble Oil & Refining Co.'s No. 9 Smith is idle. No. 67 Smith is drilling around 2,634 feet, with No. 68 at 3,367 feet. A derrick is up for No. 22 Peninsula. The Sun Oil Co.'s No. 18 Bartlett-Smith is at 2,510 feet. The Powell Oil Co.'s No. 5 Bryan is fishing at 4,508 feet.

At Pierce Junction, the Navarro Oil Co.'s No. 2 Cain is at 2,710 feet. The Gulf Production Co.'s No. 9 Taylor is washing to the bottom of the hole.

Brazoria County Pools

The Texas Company's No. 22 Arnold at West Columbia is at 3,325 feet, and the Humble Oil & Refining Co.'s No. 1 LeRubus is drilling deeper at 3,998 feet.

No work is being done at Damon Mound.

Other Pools

At Spindletop, the Lillian Oil Co.'s No. 3 Terrell is idle at 975 feet. The Yount-Lee Oil Co.'s No. 3 Gladys, on the north side, is showing oil at 3,025 feet. Same company's No. 4 McFadden is drilling around 3,070 feet. It is 300 feet south of No. 3, a light gravity well at 2,780 feet.

At Markham, Matagorda County, the Rycade Petroleum Corp.'s No. 1 Kountz is around 2,400 feet.

Fort Bend County Pools

At Blue Ridge, the Gulf Production Co.'s No. 6 Luacher is drilling at 4,017 feet and The Texas Company's No. 10 Robinson at 3,615 feet.

At Big Creek the Gulf Production Co.'s No. 10 Wheat is around 3,580 feet and No. 28 Davis at 2,023 feet. No. 29 Davis is drilling at 1,808 feet.

At Orchard Dome, northwest of Rosenburg, where the Gulf Production Co. has a dome and one well all to itself, No. 6 Moore is drilling below 2,200 feet.

At Nash Dome on the line of Fort Bend and Brazoria Counties, where the Rycade Petroleum Corp. has the same situation, it is drilling No. 2 Flessner on the Fort Bend County side at 3,618 feet and No. 3 Flessner is rigging. On the Brazoria County side, No. 6 Wisdom is drilling around 1,265 feet. No. 2 Wisdom is at 3,597 feet and No. 6 Nash below 2,900 feet. No. 7 Nash is at 3,190 feet.

Orange County

In the Orange Pool, the Rycade Petroleum Corp. is rigging Nos. 5 and 8-B Cow Bayou and drilling No. 2-B at 4,900 feet. The Gulf Production Co.'s Nos. 7 Peveta and 23 Hager fee are rigging. No. 22 Hager fee is drilling at 4,076 feet and No. 21 around 4,765 feet. No. 3 is deepening at 4,880 feet. No. 9-B Kishi-Lang, is drilling around 2,675 feet. The Humble Oil & Refining Co.'s No. 5 Myers is perforating casing at 3,325 feet and No. 25-A Chesson is at 5,108 feet. The Texhoma Oil Co.'s No. 4 Chesson is sidetracking at 4,719 feet. The liner is being pul'ed from No. 7 Chesson. The Brownie Babbittee Oil Co.'s No. 5 McLean is at 2,565 feet. The Kishi Development Co.'s No. 7 McGuire is drilling deeper at 4,935 feet. The Rex Petroleum Co.'s No. 4 Carbello is at 3,980 feet. The Orange Petroleum Co.'s No. 1 Williams is around 4,235 feet. No. 11 Chesson is below 5,132 feet. The derrick is being rebuilt over No. 1 Berwick. The Sun Oil Co. is rigging to drill No. 1 Bellisle deeper. The Atlantic Oil Producing Co.'s No. 4 Hager is at 3,875 feet. The Supreme Oil Co.'s No. 4 Jackson is around 3,800 feet.

At High Island in Galveston County, the Gulf Production Co.'s No. 5 Smith is drilling below 2,655 feet. The Sun Oil Co.'s No. 8 Lockhart, a shallow test, is around 425 feet. The Sun Co.'s No. 8-C Cade is at 2,545 feet and No. 10 Cade at 1,676 feet.

Lockport Area

In the Lockport district in Calcasieu Parish, Louisiana, the Vacuum-Gulf Co.'s joint No. 5 Miller is drilling at 4,785 feet. No. 7 is at 3,560 feet. No. 8 is around 3,567 feet and No. 9 at 4,085 feet. No. 3 Farquhar is at 3,090 feet and No. 2 Bordages around 2,875 feet. No. 4 Lock-Moore is rigging up.

In St. Marys Parish, the Rio Bravo Oil Co.'s No. 1 Glenwild is fishing at 3,525 feet. The Gulf Refining Co. has been making geophysical tests in that parish on and around the Oakland plantation.

The Texas Company is starting No. 1 Ducide in Evangeline Parish. The Yount-Lee Oil Co. is drilling No. 12 Ervine, a formation test in Jefferson Davis Parish.

Coastal Wildcats

A recheck of the Gulf region shows 51 wildcat tests drilling in south Texas and south Louisiana, with 23 rotary outfits on locations and derricks standing. About 25 per cent of the drilling tests are being made with light gasoline-driven rotary rigs, as formation tests following geophysical explorations made with the seismograph and torsional balance.

The Roxana Petroleum Corp. abandoned No. 1 Kropp at Hinkle Ferry on the Brazos River, in Brazoria County, at 578 feet. Dome formation was found. Same company's No. 2 Allen is at 3,300 feet and No. 1 Clements State prison farm is drilling around 4,525 feet. Hamm & Co. have a location for No. 2 Chester at Bryan Heights, near Freeport.

In Chambers County W. C. Moore's No. 1 Drought, northeast of Anahuac, is below 1,200 feet. It is one of a series of formation tests.

At Long Point in Fort Bend County, the Gulf Production Co.'s No. 10 Davis went into gyp and sulphur at 610 feet. No. 8 Davis at around 3,615 feet.

Using Commercial Gas

In Harris County The Texas Company's No. 6 Warren at Hockley Dome, is around 3,435 feet. No. 7 Warren is below 1,800 feet. The Brane Oil Co. has started No. 1 north of Spring. The Miller Oil Co.'s No. 2 fee, near Peggy Lake, is drilling. One of the mains of the Houston Pipe Line Co. carrying natural gas from the Refugio County gas field to industries on the Houston ship channel, passes near this test and natural gas is being used for fuel. The gas comes from a distance of 180 miles. It is the first wildcat test to use commercial gas for fuel and marks an epoch in the Constal region. Oil is the usual fuel. It is probable that commercial gas will be used more by wildcatters, especially if the tests are located near the mains from the gas fields in the southwest counties.

In Hardin County, Hooks and others have a location between Batson and Saratoga. The Texas Little Farms Co.'s No. 1 Hardin is idle at 2,700 feet.

In Jefferson County, the Gulf Production Co.'s No. 1 Burrell at Fannette is around 3,900 feet and No. 2 Bordages is below 2,000 feet. The Houston Oil Co.'s No. 1 Sun-Dyson at Big Hill Dome is drilling around 3,190 feet. Deutser and others are resuming work on No. 1 Carwright, close to the Beaumont city limits. It has been idle at 1,200 feet.

In Liberty County, the Premium Oil Co. is drilling No. 1 Mitchell, north of the South Liberty Pool. Young and others on the Wallisville road is repairing the derrick. The Dayton Oil Co. is starting No. 4 fee in the old Dayton Pool.

In Matagorda County the Shepherd Mound Oil Co.'s No. 2 Hawkins, Hawkins Dome, is idle. Gulf Production Co.'s No. 4 Craig there is drilling below 1,224 feet. No. 1 Sanborn is rigging to start drilling.

In Newton County, the Humble Oil & Refining Co. is drilling No. 1 Sabine Tramway. That company has made about 20 formation tests in Newton and Orange Counties, covering 200,000 acres. It is now drilling a deep test 3 miles north of Deweyville, Orange County. It is generally believed that geophysical explorations located a saline dome 1 mile north of Deweyville.

The Orange Production Co. is sidetracking No. 2 at Gum Island, west of Orange, at 1,750 feet. Geophysical tests are being made at Benner Hill, across the Neches River, each of Beaumont.

In Wharton County, the Gulf Production Co. abandoned No. 1 Borden, near Mackay, at 4,010 feet. SoRelle and others' No. 1 Glenn Flora Road is drilling around 435 feet. J. W. Rich's No. 2 Dennis is at 575 feet. The Houston-Gulf Gas Co.'s No. 1 Woodbine is at 650 feet in a water sand.

Inland from the Coast, Jenkins and Davis have a location for a test 12 miles west of Huntsville, Walker County.

In Grimes County, Briant & Huber's No. 1 Piedmont is shut down temporarily. Johnson and others have a location for No. 1 Cuthbert, near Singleton.

In DeWitt County Yoakum parties are resuming drilling No. 1 Yeager from 2,510 feet.

The rock pressure at the wells in the wells in the Refugio County gas district, is decreasing very rapidly, declining from around 1,100 pounds to 500 pounds. The Houston Pipe Line Co. is drawing on the field to furnish gas to Houston industries, distributing an average of 45,000,000 feet per day, which will be increased to about 60,000,000 feet next week when the big refinery of the Humble Oil & Refining Co. at Baytown is connected. The company has a good reserve in Live Oak County, which will be augmented when its 85-mile extension from Live Oak to the districts in Webb and Duval Counties is completed.

Miscellaneous

Tank car shipments of crude from the Laredo-Jim Hogg County fields during March total 787 cars compared with 828 cars in February.

A total of 32 cars were shipped from Noleda, Piedras Pintas Pool, compared with 33 cars in February. The Humble Oil & Refining Co.'s No. 4 Walsh, the deep sand well on the east edge of the Piedras Pintas Dome, has dropped to an average of 275 bbls. per day.

SOUTHWEST TEXAS

(Continued from Page 61)

and is drilled at each end of it. Humble company also has a block south of Schertz in eastern Bexar and lapping over the Cibolo River into Guadalupe and it is understood it will drill. Stieren and others will drill a test in southern Bexar and George Ginter on a deep test in the Southton Field is at 1,850 feet and fishing.

East of the Cibolo River in Guadalupe County, Payne & Bond have the derrick up on the H. Rosenbrock farm in the Durran survey 150 feet each way out of the northwest corner of the east half of the farm. J. M. Davis, a little to the north and nearer New Berlin, is starting a test on the Julius Schultze farm 400 feet from the north line and 300 feet from the east line. The Texas Company is all rigged up and ready to start on the Glenwinkle farm farther northeast in Guadalupe southeast of Kingsbury.

Caldwell County

In Caldwell County Sun Oil Co. has abandoned No. 1 J. M. Cardwell a little north of Lockhart at 1,703 feet. It topped the Edwards at about 1,497 feet and found it discolored with oil but dry. South of the Lytton Springs Field in the country south of Dale where major companies last year traced out a structure and which they have only started to test Reiter-Foster Oil Corp. is maving to the No. 1 Alexander about 2 miles west of its test on the Brown tract which penetrated about 100 feet of Serpentine which carried a little oil and found a little oil also in the Edwards. Gulf company drilled two dry holes farther west in the direction of the Luling Field. Marland is contributing some acreage for the new Reiter-Foster test. The territory is being watched closely. Most of the major companies have protection acreage. Reiter-Foster is drilling at about 1,100 feet on No. 1 Gomillion northeast of the Lytton Springs Field.

Bastrop County

In Bastrop County Reiter-Foster has another wildcat in a territory that is attracting wide attention. Its No. 1 Watts in the southwest corner of the county is drilling at about 1,587 feet. It got the chalk at 1,553 feet and is looking fairly good thus far. A little to the north and east Cranfil & Reynolds are rigging up to drill the Alexander & Lyles block of leases near the test drilled by Dixie company last year on Cedar Creek. In the northern part of the County Andrews Petroleum Co.'s No. 1 Brundage east of Elgin is being abandoned at 2,956 feet. The Edwards lime had a little sulphur smell but was dry. This test is interesting in that it had frequent breaks in the Austin chalk with Serpentine and traces of oil.

Across to the west of this in northeastern Travis County Gulf Production Co. is abandoning its No. 1 Parsons at 1,178 feet. Like the four Humble tests drilled to the north and east of it the test got traces of oil in a little Serpentine. That area will probably continue to be drilled due to the showings encountered in the wells thus far drilled.

In Williamson County Fritz Fuch, a little south of Thrall, at 1,078 feet on the Fuch fee land has a showing of oil in a wildcat well and is setting casing to make a test. The Texas Company last year blocked a considerable acreage in Williamson in the southeastern part of the county where Simms, Gulf and others had blocks. The Texas Company deferred drilling at that time due to tests elsewhere in Texas but is now preparing to drill the block.

ARTESIA, NEW MEXICO

(Continued from Page 56)

wildcat several months ago at a depth of 500 feet.

Drilling Report

Decum Development Co.'s No. 1 Vandagriff, NE cor. SE of Section 5-17-28, is running 5⅞-inch casing at 1,950 feet; Colorado Drilling Co.'s No. 1 Irving, SE SE, Section 8-16-27, fishing; Cook-Ironsides and others, Section 10-20-29, no report; Compton No. 2, Mann permit, Section 3-18-27, drilling below 1,000 feet; Danciger Oil & Refining Co.'s No. 2 Beeson, NE SE, Section 18-18-28, shut down, broken engine; Danciger's No. 2 Ragsdale, NE SE SE, Section 8-18-28, location made; Dome Oil Co.'s No. 5, SW cor. SE NE, Section 17-18-28, on production; No. 6, SE cor. NE, Section 21-18-28, drilling below 275 feet; Flynn, Welch & Yates' No. 30, NE SE, Section 21-18-28, on production; No. 40, SE Section 29-18-28, on production; No. 41, Section 3-18-28, drilling below 650 feet; No. 42, Section 3-18-28, drilling below 700 feet; No. 43, SE cor. NE, Section 28-18-28, drilling below 1,900 feet; No. 44, NE NW, Section 9-18-28, drilling below 1,300 feet; Fletcher Oil Co., SW, Section 5-19-28, drilling below 2,300 feet; Frontier Petroleum Co.'s No. 2, McQuigg Brothers lease, Section 4-18-28, on production; No. 4, Section 4-18-28, drilling below 2,125 feet; No. 11, Section 4-18-28, drilling below 760 feet; Levers-Carper No. 2, NE SW, Section 3-18-28, on production; Levers-Wilson No. 5, center of SW SE, Section 18-18-28, no report; Mesa Oil Co.'s No. 1, Section 4-19-28, making pumping test; Ohio Oil Co.'s No. 1 Edgerton, NW NW, Section 18-18-29, drilling below 2,850 feet; Ohio Oil Co.'s No. 1

New States, NW NE, Section 8-18-28, cleaning out after shot; No. 9 New States, Section 4-18-28, drilling below 3,660 feet; No. 10 New States, Section 4-18-28, drilling at 2,315 feet; Ohio Oil Co.'s No. 1 Marion, SE NE, Section 5-18-28, cleaning out after shot; No. 1 Toomie Allen, SE NW, Section 22-18-28, drilling at 2,190 feet; Picher Oil & Gas Corp.'s No. 2, SE SE, Section 12-18-27, cleaning out after shot; A. H. Ramage No. 1, SW SE, Section 2-18-28, drilling below 2,460 feet; Rehn and others' No. 1 Winans, NW NE, Section 15-18-26, shut down; Shaw & Rathke's No. 1 Danciger, Section 20-18-28, fishing; Snowden-McSweeney's No. 4, NE cor. NE NW, Section 33-18-28, on production; Swartz, Compton & Eaton, Brainard permit, NE cor. SW, Section 5-18-27, drilling at 1,000 feet; Murray Oil Co.'s No. 1 White, SE NW, Section 9-17-23, drilling below 1,000 feet; Texas Production Co.'s No. 5, NW NE NE, Section 8-18-28, drilling; Wade & Bujac's No. 1 Goodale, NW NW, Section 19-18-28, drilling below 1,450 feet.

Chaves County

Arkansas Gas & Fuel Co.'s No. 1 Manning Dome, SE cor. Section 14-15-17, fishing; Colorado Gas & Fuel Co., NW NW, Section 16-8-27, drilling at 4,860 feet.

Lea County

Maljamar Oil & Gas Corp.'s No. 1 Baish, NE of Section 21-17-32, drilling below 3,160 feet; No. 1, Grace Mitchell permit, SW cor. Section 5-17-32, drilling below 500 feet; Maljamar's No. 1, Beardsley permit, NE cor. Section 15-17-32, location; Maljamar's No. 1 Pearsall permit, NE cor. Section 33-17-32, drilling below 500 feet; Ross No. 1, Section 27-10-32, drilling below 2,150 feet.

CANADIAN FIELDS

(Continued from Page 65)

which is being refined in a small plant on the ground, but the drill has not yet reached the Royalite oil sand horizon.

McLeod Oil Co.'s No. 2, LSD 16, Section 1-20-3w5, which was caked with paraffin at 3,364 feet, has overcome the difficulty by turning oil from No. 1 well into No. 2 Casing has been set and drilling is being resumed. Mammoth Oil & Developing Co. has located No. 1 well on LSD 2, Section 24-30-3w5. The company is incorporated with $500,000 capital and head office at Calgary, the officers being: President, Guy Weadick; vice president. Dr. J. H. Birch; secretary-treasurer, J. M. Miller; directors, William Scott, J. R. Hammill, W. J. McLeod, all of Calgary.

Dallas Oil Co.'s No. 1, LSD 11, Section 20-19-2w5, has a derrick up and is installing boiler and engine. The test will spud in about April 20. F. H. Stover is in charge of the drilling. Spooner Oils, Ltd., headed by A. G. Spooner, president of Vulcan Oils, Ltd., are locating two tests, one near Vulcan No. 1 and the other close to the Midwest wells. Two heavy duty standard rigs are being brought in for the drilling.

Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, is drilling on iron at 3,530 feet. At this level they are encountering a slight seepage of mud. This is the old Southern Alberta No. 1 flowing well, which is being deepened. Dalhousie No. 3, LSD 10, Section 13-20-3w5, at 3,254 feet, is pulling the casing in order to loosen it.

Other Operations

Home Oil Co.'s No. 1, LSD 10, Section 20-19-2w5, has spudded in. The company has a 122-foot derrick adaptable to both rotary and standard tools and has both rotary and standard equipment on the ground, though the start is being made with standard tools. Major James R. Lowery is managing director and Kenneth Spence field superintendent, while W. C. Sprague and Charles Nolan are handling the drilling. Belgo-Canadian Co., Section 4-19-2w5, has ordered a drilling outfit and will undertake to finish the old Record Oil Co. well, which has already been carried to 4,327 feet. New Black Diamond Oil Co., LSD 1, Section 3-20-3w5, is working on derrick and camp buildings, and has all the tools on the ground. The test will spud in about the end of April. Reserve Oils, Ltd., is moving drilling equipment to the Stoney Indian reservation for a test. Western Ridge Oil Co. has a location on LSD 1, Section 11-20-3w5. The test will be started with a 20-inch hole.

New York-Alberta Oil Co., capitalized at $1,000,000 under Dominion charter with head office at Calgary, has made a tentative location on LSD 6, Section 20-19-2w5, in the Turner Valley Field. This company also holds acreage in the Rice Creek district, west of Nanton. The officers are: President, O. G. Devenish; vice president, W. M. Connacher; secretary-treasurer, H. A. Setterington; directors, William Ardern, M. Groberman, D. V. Cope. British-Dominion Oil Co., Ltd., LSD 4, Section 5-20-2w5, has derrick up and camp buildings completed. Mid-Valley Oil Co. has a location on LSD 12, Section 5-20-2w5. Paramount Oils, Ltd., has a location on LSD 2, Section 29-19-4w5. Great West Oil Co. has a derrick up on the southeast quarter of Section 7-20-2w5. New Valley Oil Co. has spotted a test on Section 6-21-2w5. Highland Oils has a location on LSD 5, Section 5-20-2w5.

Illinois-Alberta Oil & Refining Co.'s No. 1, LSD 14, Section 12-20-3w5, has got the heavy gas pressure under control and is drilling at 3,400 feet. Calla Oils, Ltd., has spotted a test on LSD 7, Section 24-20-3w5. The company is capitalized at $600,000 with head office at Calgary, the officers being: President, D. V. Cope; vice president, Dr. C. S. Mahood; directors, R. M. Spence, T. J. Campbell, W. C. Wood.

Moose Mountain

In the Moose Mountain district, Cherokee Oils, Ltd., is reported drilling at 1,463 feet on Section 33-23-5w5. Signal Hill No. 1, Section 34-23-5w5, is shut down at 2,420 feet. Signal Hill No. 2, same section, is at 2,040 feet and underreaming. The Elbow Oil Co. is locating a test in the same area. This was the scene of the Moose Mountain Oil Co. strike in 1914, that company getting a reputed production of 25 bbls. a day high-grade crude, different from the light naphthas of the Turner Valley Field, at 1,600 feet depth. The well was shot and later had to be abandoned. The formations are stated to be some 600 feet higher than in the Turner Valley Field, and commercial production, if encountered at all, is looked for around 2,800 feet.

Another area which attracted some attention in 1914 is in the High River district, where the Federal Oil Co. 12 years ago got a show of wet gas at 504 feet. High River Oilfields, Ltd., with head office at Calgary, is locating a test in this area. Officers are president, Robert Gilruth; vice president, James E. Rogers; secretary, George R. Gell; treasurer, J. Craig Brokovski; managing director, Frank A. Fontana.

In the Aldersyde district, the Ranchmen's Gas & Oil Co. has been organized with $500,000 capitalization and extensive leases, including the area formerly held by Sam Drumheller and tested some years ago by the Drumheller Oil & Gas Co. Drumheller No. 1 got a fair gas show in the upper horizons, but No. 2 was barely started when the work was abandoned. Neither test was carried to conclusive depths. It is probable that the Ranchmen's Gas & Oil Co. will deepen Drumheller No. 1. Officers of the company are: President, F. A. Dowler, vice president; George Skinner, Stettler; secretary treasurer, John P. Collins; directors, Ed Kenney, John Dafoe, J. B. Cleary, D. C. McDonald. Head office is at Calgary.

Northern Alberta

In northern Alberta, the Black Rock Oil Co., which last year drilled a test at Fort Vermillion on the upper Peace River, will start a second well this season, the drilling equipment being moved this spring to a new location across the river. At the close of last season the drill had penetrated an oil shale at very moderate depth, but without securing large production. Joseph Dubuc, who has been with the International Petroleum Co. in the Peruvian fields for the

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past three years, will have charge of the drilling.

In the Irma-Wainwright Field, Wainwright Petroleums, Ltd., are arranging to drill a test on acreage in either LSD 14 or 15, Section 30-45-6w4.

Refineries Distributors, Ltd., has been incorporated with head office at Edmonton, Alta., to construct a refinery at Saskatoon, Sask., and a cracking unit in connection with the Alberta Refineries, Ltd., plant at Edmonton. The company is also planning to establish upwards of 100 distributing depots in western Canada and a truck delivery service for rural areas.

In the Ontario fields, Union Natural Gas Co.'s No. 20 deep test in Dover Township, Kent County, is reported drilling at 2,300 feet. In the Courtland Field, Norfolk County, O. Westner is drilling a test for gas for the Dominion Natural Gas Co. in Middleton Township. Near Wycombe, about 8 miles from the Courtland Field, Contractor Featherston has finished a small gasser for the Dominion Natural Gas Co., reported good for 75,000 feet a day. Medina Natural Gas Co.'s No. 3 Beech Lane, Houghton Township, Norfolk County, is reported drilling at about 600 feet.

In Zone Township, Kent County, Kiser Brothers, are working on the Colchester Oil & Gas Co.'s No. 1 E. P. Rowe deep test. They have got the water out of the hole and started drilling at about 2,240 feet.

OKLAHOMA FIELDS

(Continued from Page 53)

The Washashe Oil Co. was rigging up a machine for No. 52, C SW SW SW. Section 15-29-9. The Keener Oil & Gas Co. completed its No. 7, CEL NE NE, Section 15-29-10, for 15 bbls. with a 90-quart shot in sand at 1,050-94 feet, and was rigging up a machine for No. 8, SE cor. SW NE, same section.

The Owen-Osage Oil Co.'s No. 361, C E half NW, Section 21-28-10, was a completion good for 250,000 feet of gas at 1,835-86 feet in the top of the Mississippi lime.

The Washashe Oil Co. was drilling its No. 2, C SE SE NW. Section 33-28-11, at 700 feet. Duffield and Howard were drilling below 500 feet in their No. 1, C NW NW NW, Section 34-28-11.

The Tidal-Osage Oil Co.'s No. 4, C NE SW SW, Section 24-24-8, was good for 12 bbls. in sand at 2,145-2,200 feet. The same company had a 50-bbl. well in No. 2, CNL NE SE, Section 20-24-9, following a 220-quart shot in sand at 2,202-71 feet.

The Peters Petroleum Co. completed No. 4, CEL SE SW, Section 28-24-10. It made 15 bbls. after a 60-quart shot in the Cleveland sand at 1,379-94 feet. Another 15-bbl. Cleveland sand producer was the Winona Oil Co.'s No. 19, CWL NW SE, Section 28-24-10, in sand at 1,367-83 feet.

The Marland Oil Co. spudded No. 82, C NE SE SW, Section 19-25-11. The Barnsdall Oil Corp. was drilling at 791 feet in No. 6, C SW SW NW, Section 11-24-11.

Ross and Witherall completed No. 12, C NW SE SW, Section 25-23-10, for 15 bbls. after a 120-quart shot in sand at 1,682-1,718 feet. The Elm Oil Co.'s No. 13, C SW NE NE, Section 23-22-10, was plugged back from 1,758 to 1,748 feet and after a shot of 100 quarts produced 30 bbls. from sand at 1,718-48 feet.

The Kewanee Oil & Gas Co.'s No. 12, CEL NE NE, Section 5-22-11, was drilling at 225 feet. A rig was up for Ray Branstetter's No. 1, CSL NW SW, Section 23-22-11.

A 20-bbl. well resulted from a shot of 80 quarts in the Carter Brothers and Mason's No. 7, CWL NW NE, Section 23-21-8. Sand was found at 2,190-2,230 feet.

Franchot and Moore were drilling their No. 7, CSL SW SW, Section 11-21-9, at 930 feet. The Mid-Kansas Oil & Gas Co. had a rig up for No. 1-A, C NE NE SE, Section 10-21-10, and T. K. Smith spudded his No. 1, CNL NW, Section 33-21-10.

The Tidal Oil Co. and Morris were drilling at 340 feet with a machine in their No. 6, CWL NW SW, Section 15-21-12. The Kewanee Oil & Gas Co.'s No. 5, C E half SW, Section 17-21-12, was a machine. The Tidal-Osage Oil Co. had a 5-bbl. well as a result of a 50-quart shot in No. 23, C SW SE, Section 19-21-12. Sand was found at 2,085-2,103 feet and total depth was 2,255 feet.

The Commercial Drilling Co. had a machine in place for No. 1, C NW NW SW, Section 22-21-12. The Barnsdall Oil Corp.'s No. 20, C NW NW NE, Section 30-21-12, was dry and abandoned at 2,263 feet. A 15-bbl. well was brought in by the Sand Springs Home in No. 1, C SE SE NE, Section 30-20-11, with a 13-quart shot in sand at 2,316-28 feet.

The Savoy Oil Co. spudded No. 8, C NE SE SW, Section 22-20-12. The Continental Oil Co.'s No. 14, CSL SE NW NW, Section 28-20-12, was good for 90 bbls. at 2,026-51 feet, total depth 2,056 feet.

Tulsa County

In the extreme southeastern corner of Tulsa County, the Invaders Oil Co.'s No. 1-A, NE cor. SW, Section 16-16-14, was dry and abandoned at 1,794 feet. It had a sand at 1,738-46 feet but found nothing in it.

The Regal Oil Co.'s No. 7, CWL SW SE SE, Section 36-19-11, was drilling at 475 feet.

Wagoner County

In Wagoner County, H. C. Deems and others abandoned their No. 1, NW cor. SW SE, Section 31-18-15, after finding sand at 1,335-45 feet, dry.

Payne County

The Mulberry Oil Co.'s No. 1, CNL NW NE, Section 6-17-4, was completed as a 15,000,000-foot gasser in sand at 3,549-87 feet.

The Home Gas Co. was deepening No. 1 Hunter, C NW NW NW, Section 30-18-6. Old total depth was 2,947 feet, and it was drilling at 3,487 feet after topping the lime at 3,474 feet.

In the Deep Rock Pool, the Shaffer Oil & Refining Co.'s No. 1, C NW SW NE, Section 26-18-3, was completed for 100 bbls. naturally at 3,788-3,810 feet. The same company's No. 1, CEL NE SE, Section 23-18-3, was estimated as a 75-bbl. producer at 4,283-84 feet. The Deep Rock Oil & Refining Co.'s No. 5, C NE SW SE, Section 23-18-3, produced 1,317 bbls. the first 24 hours and 1,572 bbls., according to the latest gauge. It was completed in sand at 4,254-61 feet, and had 35,000,000 feet of gas at 4,133-4,241 feet. The same company was building rig for No. 5 Givens, C NW NW SW, Section 23, and had a rig on the ground for No. 1 Ostrander, C SW SW NW, same section. The J. A. Hull Co. was setting 15-inch pipe at 50 feet in its No. 2, C SE SE SE, Section 22-18-3. The Magnolia Petroleum Co. was rigging up No. 5 Horner, C NW SE NW, Section 24-19-4, and was drilling at 100 feet in No. 6, C NE SW NW, same section, and the Roxana Petroleum Corp. was drilling at 55 feet in No. 6, C SW NW SW, Section 13-19-4.

Fred Ossenbeck had a rotary rig up and was moving in tools for No. 1 Horne, C SE SE NW, Section 22-20-3e.

Considerable new work has been started recently in Payne County centering around the Olean or Ingalls Pool. The Roxana Petroleum Corp. has a rig up for No. 6 Stover, C SW NW SW, Section 13-19-4. The Mid-Continent Petroleum Corp. spudded No. 1 Bright, C SE SW SE, Section 14-19-4. The Olean Petroleum Co. had a rig in place for its No. 3 Bright, C SW SE SE, Section 14-19-4, and the Prairie Oil & Gas Co. had a rig on the ground for No. 1 Bright, C SE NW SE, same section. The Olean Petroleum Co. also built a rig for its No. 3 Ellis, C NW NE NE, Section 23-19-4. The Magnolia Petroleum Co. was drilling at 250 feet in its No. 4, C SW NE NW, Section 24-19-4, and had a rig up for No. 6 Horner, C NE SW NW, same section. The Olean Petroleum Co. also had a rig completed for No. 4 Pleasants, C SW NW NW, Section 24.

In the Deep Rock Pool, the J. A. Hull Co.'s No. 1 Ball, C NE SE SE, Section 22-18-3, was a completion in sand at 4,245-4,303 feet, good for 965 bbls. of 44.2 gravity oil. A rig was up for No. 2 on this lease, C SE SE SE. The Mulberry Oil Co. had a rig on the ground for No. 1 Berry, C SE SE NE, Section 22-18-3, and a rig was completed for the Texas Pacific Coal & Oil Co.'s No. 1 Ball, C SE NE SE, same section. The Amerada Petroleum Corp.'s No. 4, C NW SE SE, Section 23-18-3, topped sand at 3,740-67 feet, good for 235 bbls. and 3,000,000 feet of gas.

The Deep Rock Oil & Refining Co.'s No. 1 Givens, C NW SW SW, Section 23-18-3, made 1,148 bbls. the first 13 hours and was completed for 875 bbls. in a full 24-hour gauge from sand at 4,188-4,258 feet. A rig was building for No. 3 Givens, C SW NW SW, and for No. 4 Givens, C SE SW SW, same section. The Mulberry Oil Co.'s No. 3, C SW NE SE, Section 23, was an 800-bbl. well naturally in sand at 4,282-87 feet. The Shaffer Oil & Refining Co. had a rig on the ground for No. 3 Shannon, C SE SE SW, Section 23-18-3, and was building a rig for No. 4 Shannon, C SW SE SW, same section. No. 1, in the C NW SE NE, Section 10-18-4, was shut down for water at 150 feet.

North of Cushing, the Marland Oil Co. was deepening No. 3, NW cor. SW SE, Section 7-18-5, at 2,891 feet, old total depth having been 2,847 feet.

West of Cushing, the Mulberry Oil Co. had 4,000,000 feet of gas in No. 1, CNL NW NE, Section 6-17-4, but was drilling ahead. The Home Gas Co. had timbers for No. 2 Foster, C NE NE NW, same section.

Lincoln County

The Wilcox Oil & Gas Co. was drilling at 500 feet in its No. 1, C NE NE NW, Section 25-15-3, northwest of Chandler.

In the northeastern part of Lincoln County, Madden and Madden were rigging up No. 1 Johnson, C NW SW NW, Section 35-16-6.

In the Davenport Pool, Lincoln County, the Prairie Oil & Gas Co. had timbers for No. 20 Stout, CNL NE NW, Section 3-14-5, and for No. 21 Stout, CEL NE NW, same section.

The Magnolia Petroleum Co. completed No. 1, C SW SW NE, Section 35-15-5, for 45 bbls. after a 40-quart shot in sand at 3,406-21 feet, with a total depth 10 feet lower.

The Skelly Oil Co.'s No. 8, NW cor. SE NE, Section 2-14-5, was good for 130 bbls. the first 24 hours after a shot in sand at 3,335-82 feet, total depth being 5 feet lower. The Texas Company's No. 5, C SW SW SE, same section, which flowed 480 bbls. naturally from sand at 3,365-3,430 feet, was shot with 110 quarts. The 8-inch was damaged by the shot, resulting in a bad hole but the well was still flowing 300 bbls. The Magnolia Petroleum Co. completed No. 4, C NW SW SW, Section 3-14-5, for 213 bbls. naturally from sand at 3,395-3,453 feet. The Prairie Oil & Gas Co. also reached the oil sand in No. 19, CSL SW NW, same section, but it was not completed. It topped the sand at 2,647 feet and at 2,652 feet flowed 50 bbls. the first 20 hours. The Pure Oil Co.'s No. 1, C NE SE SE, Section 4-14-5, was another one producing oil. It flowed 207 bbls. from sand at 3,407-67 feet. The Magnolia's No. 1-A, C NE NW SW, Section 8-14-5, was good for only 19 bbls. of oil and 50 bbls. of water when completed in sand at 3,474-92 feet. The same company's No. 1, C NW NW SE, Section 10-14-5, made 95 bbls. naturally and 122 bbls. after shooting in sand at 3,476-90 feet. The Prairie Oil & Gas Co. had a rig up for No. 1 McCracken, NE cor. SW, Section 10-14-5.

In the Skellyville Pool, the Phillips Petroleum Co.'s No. 1, C NW NW SW. Section 8-15-6, was completed for 523 bbls. naturally, from one foot of sand topped at 4,059 feet. The same company's No. 2, C NE NW SW, same section, was drilling at 1,200 feet. The Mid-Continent Petroleum Corp. was spudding No. 1 Earp, C SE SW NW, Section 8, and the Magnolia Petroleum Co. was rigging up No. 1 Kilgore, C NW NE SW, same section.

Seminole County

In the next township east of the Maud district, and across the line in Seminole County, the Indian Territory Illuminating Oil Co. spudded its No. 1, C NE NE NE, Section 9-7-6.

In Other Counties

North of Ada in Pontotoc County, the American Oil & Refining Co. spudded No. 1, C NE NE, Section 9-4-6.

In the southwestern corner of Wagoner County, Hart and others abandoned their No. 1-A, NW cor. NE SE, Section 18-16-15, as dry at 1,511 feet.

In the next township south, in Muskogee County, the Papoose Oil Co. rigged up a machine for No. 1 Smith, SW cor. NW, Section 14-15-15. The Link Oil Co. spudded No. 6, SE cor. NE, Section 29-15-15.

In Sequoyah County, the Citizens Gas Co. was drilling at 1,600 feet in No. 1 Mayfield, SE cor. NE, Section 15-11-26.

Near Madill in Marshall County, the Ramsey Brothers abandoned their No. 1, C NW SW SW, Section 10-5s-5e, as dry at 1,400 feet. The United 8 Oil Co. plugged its No. 2, SW cor., Section 19-5s-6e, at 802 feet.

Okmulgee County

In the extreme western part of Okmulgee County, E. J. Lambert was drilling at 700 feet with a machine in his No. 5 Freeman, CWL NE NW, Section 7-13-15, a twin well. The Helena Oil Co.'s No. 4 Lovett, CNL SW NW, Section 16-13-15, was drilling at 1,325 feet.

The Magnolia Petroleum Co. had a rig on the ground for No. 8 Jackson, SW cor. NW NE, Section 1-11-13, a twin well. B. E. Morgan was drilling with a machine at 815 feet in No. 3 Kanard, CSL SE NE, Section 13-11-13, and G. V. Lutter had a machine on the ground for No. 1, C SW NW NE, Section 31-11-13.

W. B. Pine was drilling his No. 8, NE cor. NW NW, Section 18-15-13, at 700 feet. The Tidal Oil Co.'s No. 5, C SE SW SW, Section 28-15-13, an old well deepened, was dry and abandoned at 2,804 feet.

W. B. Pine and others were building a rig for their No. 1 Sells, NW cor. Section 10-15-14, and The Texas Company had a rig up for No. 12 Garrett, SE cor. NW NE, Section 21-15-14. Jolly and Ogg were rigging up to deepen their No. 1 Osborne, C NE NE NW, Section 21-15-14, an old well with total depth of 1,705 feet. J. L. Selby also had a machine on the ground for No. 5 Osborne, CSL NE SE, same section. The Sinclair Oil & Gas Co. abandoned its No. 17, C NW NE, Section 23-15-14, as dry at 1,781 feet.

J. L. Selby and others plugged No. 7, C SW SW SE, Section 24-14-13, as a failure at 2,568 feet. J. K. Gardner and others were drilling at 600 feet in their No. 3, C NW NE SW, Section 32-14-13.

A failure was completed by the Papoose Oil Co. in its No. 6, CEL SW SW, Section 11-14-14, which was plugged at 1,802 feet. J. E. Wallace contributed another in his No. 2, CWL SE SW, same section, which was dry at 1,805 feet. Michling and Berlin's No. 3, CNL NE NE, Section 14-14-14, was a 7-bbl. well after it was shot with 60 quarts in sand at 1,070-1,101 feet. J. L. Selby's No. 13, C NW NW, Section 35-14-14, was completed for 25 bbls. after a 40-quart shot in sand at 1,148-68 feet.

A rig was being built for No. 1 Hardridge by M. P. Evans and others, in the SE cor. NW, Section 20-13-13. The Simms Petroleum Co. had a rig up for No. 14 Doyle, C NE SW, Section 15-13-14, and the Cumberland Petroleum Co. was drilling its No. 1, C NW SW NW, Section 21-13-14, at 1,000 feet. Cusack and Claron completed No. 7, NE cor. SE NW, Section 29-13-14, for 35 bbls. after a 5-quart squib in sand at 1,667-90 feet.

C. F. Noble abandoned the location for No. 2, C NW NW SE, Section 3-15-11.

Other Okmulgee Operations

A duster was recorded by Mickelson and others in their No. 2, C SW SW, Section 20-15-12, at 1,755 feet. The Noble Oil & Gas Co. spudded its No. 2, SE cor. NE, Section 22-15-12.

A. G. Hazlett was drilling at 160 feet

in his No. 1, NE cor. NW, Section 36-14-12.

The Devonian Oil Co. and Independent Oil & Gas Co.'s No. 8, CWL NW SE SW, Section 7-15-13, was drilling at 568 feet.

W. B. Pine had 1,000,000 feet of gas in his No. 1, C NW NW SW, Section 3-15-14, in sand at 1,498-1,505 feet but the well was not completed. E. B. Grubbs had 2,000,000 feet of gas in No. 1, NW cor. SE, Section 7-15-14, at 1,715-72 feet. W. B. Pine was rigging up No. 1 Sells, NW cor. Section 10-15-14, and J. L. Selby was rigging up a machine for No. 5 Osborne, CSL NE SE, Section 21-15-14. In the same section, The Texas Company spudded No. 12, SE cor. NW NE.

McCulloch and Hazlett had a rig up for No. 7 Berryhill, C NW SE NE, Section 19-14-13.

John Wilmott's No. 3, CSL SE SE, Section 11-14-14, was shut down at 1,100 feet.

The Sheridan Oil Co. was drilling at 350 feet with a machine in No. 4, CSL SE NE, Section 4-15-11.

W. C. Newman had a rig on the ground for No. 1 Stake, C NW SW NE, Section 3-14-12.

H. L. Jolly was rigging up a machine to deepen No. 1 Bruner, C SW SW SE, Section 16-15-14.

The Aksarben Oil Co. was drilling at 200 feet with a machine in No. 8 Harris, CWL SE NE, Section 1-14-14, and the Papoose Oil Co. had a machine on the ground for No. 4-A Rentie, CSL SW SW, Section 11-14-14. The Elm Oil Co. spudded No. 16 Rentie, C SE SE, Section 13-14-14, and Mechlin and Berlin were spudding No. 4 Colbert, CWL NW NE NE, Section 14-14-14.

A rig was up and tools were on the ground for B. L. Wigton and Long's No. 4 Hawkins, NW cor. SE SE, Section 29-13-11, and the same interests were building a rig for No. 5 Hawkins, NW cor. NE SE, same section.

An old well drilled deeper was abandoned by Vierson and Walters at 3,208 feet. It was No. 2 Tiger, C NW SW SE, Section 4-12-12, which found sand at 3,178-90 feet, dry. The Independent Oil & Gas Co. was drilling at 300 feet in its No. 4-A Canard, C SE NW SE, Section 7-12-12, a twin to the company's No. 4. Galligan and Greenwald's No. 1, C NE SE SE, Section 32-12-12, (corrected location) was drilling at 850 feet.

The Simms Petroleum Co. was starting two new wells in Section 15-13-14. They are No. 12-A Doyle, CSL SW NE SW, for which a machine is on the ground, and No. 15 Doyle, C SW NE SW, for which a rig is being built. The Cumberland Petroleum Co. had 4,000,000 feet of gas at 1,736-40 feet in No. 1, C NW SW NW, Section 21-13-14. The Iron Mountain Oil Co.'s No. 17, C E half NE SW, Section 24-13-14, was dry and abandoned.

The Magnolia Petroleum Co. abandoned the location for No. 8, C SW NW NE, Section 1-11-13.

In the extreme southern part of Okmulgee County, C. O. Buckles shot his No. 14 Jackson, C SW NE NW, Section 5-11-12, with 60 quarts in sand at 1,577-1,607 feet, but it was good for only 3 bbls. F. L. Dunn spudded No. 1, C SW SE NW, Section 18-11-12.

Creek County

In the Picket-Prairie district of eastern Creek County, the Wilcox Oil & Gas Co.'s No. 4, CSL SE SW, Section 1-16-11, found the Wilcox sand at 2,633-41 feet, and the hole was plugged. Another duster in the same township was recorded by the Chief Drilling Co. Its No. 1, C SW NW SE, Section 7-16-11, had a hole full of water and was abandoned at 2,986 feet. The Peerless Oil Corp. was drilling at 300 feet in No. 1, C NW NW NE, Section 12-16-11. H. V. Bartlett completed a small well in the same section. It was his No. 1, NW cor. SW NW, and was shot in sand at 1,655-1,700 feet with 140 quarts, making 10 bbls.

In the same township, but across the line in Okmulgee County, the Sheridan Oil Co. was drilling its No. 2, SW cor. NE NE, Section 30-16-11, at 900 feet.

Back in Creek County, in Section 5-16-12, Spears and others were drilling their No. 1, CWL SW SW SE, at 500 feet.

On the other side of the county line again, the Devonian Oil Co.'s No. 3, C SE SE, Section 24-16-12, Okmulgee County, was a 65-bbl. producer following a shot of 80 quarts in sand at 2,212-25 feet. The Petroleum Co. and Mosier's No. 1, SW cor. NE, Section 4-16-13, was plugged back from 2,060-21 feet, and was a 2-bbl. pumper in sand at 1,967-70 feet.

C. G. Tibbens was spudding No. 24, CNL NW SE, Section 30-15-9, and was also spudding a twin well, No. 2, NW cor. SW NE, Section 31-15-9.

J. H. Rebold abandoned his No. 2, C SW SW SW, Section 22-15-10, as dry at 2,803 feet.

Other Creek County Operations

The Twin State Oil Co. was drilling at 325 feet in No. 1, C NW SW SW, Section 29-14-10, and the Prairie Oil & Gas Co.'s No. 1, SE cor. NE, Section 30-14-10, was drilling at 600 feet. The Mid-Continent Petroleum Corp. and Continental Oil Co. shot their No. 4, SE cor. SW NW, Section 32-14-10, with 20 quarts in sand at 3,434-44 feet and it made 125 bbls. afterward.

H. W. Skelly's No. 1, NW cor. SE SW, Section 15-19-7, was drilling at 780 feet.

Mann and Smith were drilling No. 1, SE cor. NE, Section 6-19-8, at 200 feet. Timbers were on the ground for Burlingame and Sharp's No. 5 Peters, CWL SW NW, Section 13-19-8.

The Sapulpa Refining Co.'s No. 2 Jack, CWL SE NW, Section 1-18-7, was drilling at 800 feet, and the Little Gem Oil Co.'s No. 25, C NE SW NE, Section 5-18-7, was drilling at 725 feet.

An old well is being deepened in the Cushing Field by the Twin State Oil Co. It is No. 3 Way, NE cor. SE SE, Section 7-18-7, and is drilling at 2,721 feet. The Dixie Oil Co. has a rig up for No. 1 Downs, C NW NW SW, Section 12-18-7. The Magnolia Petroleum Co.'s No. 5, NE cor. SE NW, Section 18-18-7, was completed for 55 bbls. naturally in sand at 2,427-35 feet. The Shaffer Oil & Refining Co. was drilling at 2,630 feet in its No. 13 Walker, C SE NE, Section 18-18-7, an old well drilling deeper.

Timbers were on the ground for Barnsdall Oil Corp.'s No. 2 Mitchell, CNL SW SE, Section 22-17-8, and for the Savoy Oil Co.'s No. 4 Johnson, SE cor. NW SE, Section 22-17-8. Barnsdall Oil Corp.'s No. 4, SW cor. Section 26-17-8, was drilling at 200 feet, and Knight and others spudded their No. 1 School Land, SW cor. NW, Section 26. T. B. Slick and others were rigging up their No. 3 Alec, NE cor. SW, Section 27-17-8.

The Sheridan Oil & Gas Co.'s No. 2, NW cor. Section 2-18-11, topped the Wilcox sand at 2,206-12 feet, total depth 2,216 feet, and was swabbing 35 bbls. The Gray Oil Co. had a machine on the ground for No. 3 Leader, NE cor. Section 3-18-11.

S. E. Vance's No. 17, CEL NE NW, Section 3-18-12, Tulsa County, was a 5,000,000-foot gasser at 1,922-86 feet with total depth at 2,005 feet.

In the new Chicken Farm Pool, the Sun Ray Oil Co. was rigging up a machine for No. 3-B Sargo, CNL NW SE NW, Section 6-18-12, and another for No. 4, C NW SE NW, same section, and was building a rig for No. 5, CWL SW SE NW; No. 1-A, NW cor. SE NW, was completed for 960 bbls. at 2,154-63 feet, and No. 2, which made 2,200 bbls. the first day, dropped to 1,500 bbls. the second 24 hours from sand at 2,139-40 feet, total depth being 2,149 feet.

The Wilcox Oil & Gas Co.'s No. 8, NW cor. SW NE, Section 2-15-8, an old well deepened, made 160 bbls. naturally at 3,716-64 feet. The Tidal Oil Co. abandoned its No. 8 Roberts, C NE SW SE, Section 17-15-8, another old well drilled deeper, at 3,310 feet. The same company was building a rig for No. 1-A Sissie Jim, NW cor. Section 31-15-8.

Whitehill and Henry had timbers for No. 1 Davy, SW cor. NE SE, Section 2-14-8. The Simms Petroleum Co. was

(Continued on Page 139)

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"Q.D.A." Development of Competition

Representative of Standard of Indiana at Wisconsin Hearing States That Quantity Discount Contracts Are Due to Keen Rivalry in Gasoline Sales

By Edgar Bogardus
Marketing Expert, Standard Oil Co. of Indiana

TRADE PRACTICE UNDER INVESTIGATION

The Department of Markets of the State of Wisconsin has recently been holding hearings in regard to the quantity discount contracts in the sale of gasoline which the Standard Oil Co. of Indiana has had in effect in Wisconsin and other Middle Western States in which it markets since July 1, 1926, of last year. The hearing is being conducted with the view of determining whether or not the contracts constitute an illegal trade practice in Wisconsin as claimed by some of the Standard's competitors.

At the hearing representatives of several Wisconsin marketing concerns testified. Generally these representatives testified that the contracts commonly known as the "Q. D. A." plan had brought competition which they were unable to meet.

The accompanying statement was made at the hearing by Edgar Bogardus, assistant in the marketing department of the Standard Oil Co. of Indiana. Other testimony will be presented by Standard officials when the hearing is resumed.

I have been in the employ of the Standard Oil Co. of Indiana for 35 years and in that time have been particularly engaged in the distribution and transportation of petroleum products and actively in close contact with general and detail matters pertaining to the marketing branch of the industry in so far as the operations of our company extended.

For the past several years one of my duties has been to keep continuously in touch with the price situation and other competitive conditions existing in the territory in which we do business through reports made by our division managers and by conferences with our assistant general managers, who spend most of their time out in the districts over which they have charge.

Competition in the oil business has grown amazingly during the past few years and even since 1920 up to January 1, 1926, the number of companies and individuals engaged in selling gasoline to the public has increased from 672 to 8,234 in the field where we operate and in the State of Wisconsin alone from 72, on December 31, 1920, to 608, on February 1, 1926.

The tremendous growth in the number of motor vehicles and a corresponding increase in the consumption of gasoline being so apparent to everyone, this tempting situation has appealed to a great many as a wonderful opportunity to enter for one's self a business that to them appears to promise enormous profits.

Aside from his participation in the natural increase in gasoline consumption from year to year, the only way the ambitious dealer can expand is to reach for ways and means of securing new customers and those just entering the business are forced to adopt methods that are attractive enough to get whatever business they are ever going to have from companies already established.

Desirable Business.

The desirable business in the gasoline trade is, first, that of the customer who can take a relatively large quantity delivered at one time, the second is that which involves assured deliveries at regular intervals and the most attractive customer is the one that combines both large dumps and repeating deliveries without continuous solicitation. This sort of purchaser is of two types, the reseller, operating a garage, curb pump or service station, and the customer, such as commercial organizations, large department stores and transfer companies, all using fleets of trucks and cars in the conduct of their business, and busses and taxicab concerns, all buying from either tank wagon or at service station from some jobber. Year by year this preferred class of business has developed materially and the increase in the number of curb pumps throughout Wisconsin and the country generally is a matter of common observation, so that the result of this very large increased number of prospects of this type has, together with the astounding growth in the number of those engaged in selling gasoline, greatly intensified competition and brought about the forced and vigorous efforts that have been made to secure and hold this attractive kind of business.

It was the general practice of the earlier companies in the gasoline business to make one price for all classes of service and the reseller charged such higher price over what he paid as he could get. Later a differential of 1 cent per gallon was established between the tank wagon and service station price and this continued up to March 13, 1922, when this differential was made 2 cents per gallon. Previous to July 1, 1925, gasoline business was solicited by our company on all classes of trade at the same price for the same class of service. The buyer at the service station taking one gallon and requiring the undivided attention of the attendant paid the same price as did the truck owner or bus requiring 20 or 30 gallons. The farmer, located many miles out in the country, oftentimes on an almost impassable road, paid the same price for his 20 gallons, after repeated calls of the tank wagon, as did the consumer or the owner of a garage or service station in town, who took some gasoline every day and very often a whole truck load. Any oil man, following such a practice as described, would have to figure his profits on the average price realized on all kinds of business—that of large volume with low cost and small deliveries at a greater expense.

Competitive Methods.

The appearance and growth of the desirable and most attractive type of business brought about many kinds of competitive methods adopted and practiced in efforts to secure such gallonage. It is obvious that deliveries of this character could be made at lesser expense than the cost incurred when a full day is taken to dispose of a tank wagon load, but just what that lower cost may be I cannot determine, for the reason our company has facilities and men to serve every part of the public with all kinds of petroleum products. Our sales costs are a unit and there is no way in which the cost of this particular part of our business could be segregated. I do know, however, that in some cities where jobbers generally claim a tank wagon expense of 3½ cents to 4 cents per gallon, men have entered the business of delivering full tank truck loads to large industrial consumers and resellers at a price of 1 cent per gallon over the delivered cost in tank car lots. If these men have been able to make their expenses on this basis—and I am not informed as to this—it would indicate that there may be as much as 3 cents per gallon difference between the cost of handling this assured large dump business and the cost of the ordinary type of trade. From our own experience, we do have some knowledge of the other extreme, that is the exclusively high cost business. Our company has earnestly maintained its policy of serving the farmer, wherever located, at the established tank wagon price and in the sparsely settled districts, where long hauls are necessary, our cartage alone has run as high as 6 cents per gallon in addition to the operating overhead expense of maintaining the bulk plant from which the delivery is made. Any company engaged in serving all kinds of trade finds it necessary to take care of considerable business that is of the high cost type, such as small deliveries and long-distance hauls, so that some of the less expensive part of the business, such as large dumps, steady customers, frequent calls and short hauls must be secured in order to equalize the cost of distribution.

The competitive efforts of securing this more attractive type of business have been both direct and indirect. The indirect means have been the furnishing of pumps and tanks, light posts and air compressors, the construction of driveways and the erection of canopies, the purchase of equipment and then loaning it to the customer at no cost to him and also many other forms of concessions. The direct methods have been the granting of lower prices, either by an open posted reduction, secret cut to preferred tank wagon and service station customers or by rebate at end of a period.

Menacing Situation.

During 1924 and the early part of 1925 these direct price concessions had developed to an alarming degree, not only in larger cities where more of the desired class of business existed, but throughout the territory generally and including the State of Wisconsin.

It was very apparent that the day would come and soon, unless some definite general marketing practice was adopted and put into effect when all of the low cost business of such oil companies as maintained a single price schedule would be lost to them and they would be left with only the high cost part which they could not afford to handle.

Our company was, of course, affected in exactly the same way as were others that were working under a single price structure and was feeling the effect.

This situation made it clearly necessary that some new policy would have to be devised if a fair share of the best business was to be regained or retained. Some practical and uniform application of the well-established business custom in all other merchandising of giving a discount for quantity was looked for. The first effort was the establishment of a price based on the quantity of a single delivery, as this appeared to any one having studied the problem to be the best way out of the difficulty. In the summer of 1924 such a plan was put into effect in Chicago—a promising field for such an experiment, because of the great number of large users of gasoline in that city—but even here it did not bring about satisfactory results, for the reason that successful competitive efforts were made against this class of trade. After another year of serious study on the part of the most experienced marketers in our organization, the present quantity discount agreement policy was put into effect and after eight months of experience we have found no reason to abandon it or to modify it in any essential particular.

Advantages of Plan.

It meets the competition offered us; it reduces cost of marketing by saving time in solicitation; it employs facilities and men regularly under expense and otherwise idle, thus adding to gallonage without increasing the cost; the discount paid is more than offset by increased gallonage, again reducing marketing expense per unit; it brings customers to our service stations that have heretofore patronized our competitors at a cut price and is open to all who can and will take the quantities prescribed.

This contract policy applies the well recognized general business custom and practice of making lower prices on quantities, but while it is true that the agreement is not based on the volume delivered at one time, as a matter of fact, it reaches and is entitled to cover the class of business that can take large deliveries and where regular deliveries are the rule. It takes in the reseller and relieves him from investing in large storage in order to get the price his total business entitles him to. It covers the large consumer, who, under it, can take gasoline regularly without having to measure up each time the tank wagon calls to see if there is room enough in his storage tank to take some maximum quantity. It includes the commercial organization operating a fleet of trucks and cars, requiring supplies at different places as they move about their business, even from one city to another. It reaches the bus line and package freight inter-city concerns that **in the nature of their business must take on gasoline at various points along the route traveled.** It gives such customers the price as quantity buyers they are entitled to under the well-established and recognized practice in all lines of trade. It assures them uniform quality—a very desirable thing to have—and it enables them to keep a close check on the gasoline their vehicles use. In actual practice this contract reaches the purchaser who can handle a large volume at one time, as well as one who takes a material quantity over a period with deliveries at different times and places and it does it without the difficulties that are encountered with a unit price discount scale.

Service Station Deliveries.

Large deliveries at service stations are, of course, not common, although there is a considerable difference between the tank capacity of a motorcycle or Ford and that of an inter-city bus or large truck. This truck and bus business appeared to be attractive enough to our competitors operating service stations to offer price concessions to those commercial and transportation concerns which could and did use a relatively large volume in the course of a month and it was a very common practice of competitors throughout the territory to make the tank wagon price at service stations to this kind of business. The attractive feature in this was the securing of much additional business without any increase in the facilities or operating expense, and for this reason, those who were making concessions to reach this business were easily able to consider it profitable rather than otherwise, as it increased their gallonage at their service stations where men and facilities were otherwise idle.

To us it appeared that there was sound economic ground for seeking this attractive service station business by offering a discount. Service stations are constructed and manned for the peak load of business and additional commercial

business which, for the most part, comes into the station at other than rush hours can be handled without any additional expense for operation. The granting of a lower price for such additional business does not, therefore, impose any burden on the regular business, but, on the contrary, the profit made on the new business reduces the load of service station expense to be borne by the former trade.

The quantity discount agreement policy, adopted by our company about July 1, 1925, was put into effect throughout its territory. This was the proper thing to do with any sales and price policy which does not have purely local application, but it was not only for this reason that it was put into effect in Wisconsin. The competitive conditions I have referred to existed in this state as well as in others and required the same solution. Practices in the gasoline business are very much the same in any of the states where we operate and any practice that succeeds in securing business by the company that first adopts it soon spreads and did develop very generally, so that it was quite apparent to us that if a solution were at hand it should be applied universally.

I have been discussing the quantity discount agreement policy as a whole, because it is difficult, as has been shown throughout these hearings, to consider one feature of it without discussing it in its entirety. However, as has been pointed out by the Commissioner and by the Attorney General, the proposed order was not one that would bar the giving of a quantity discount, either for a single delivery or for a number of deliveries aggregating a given quantity during the month, if those deliveries are all made at the same point.

No Monopoly Intended

It has also been intimated that the use of that feature of the contract that permits multiple deliveries tends to develop a monopoly on the part of the large companies, such as the Standard Oil Co.

No monopoly is set up here and there is no tendency to develop a monopoly on the part of this company. It must be borne in mind that the facilities of the competitors as a whole are about double those of ours in service stations alone, without counting the other numerous outlets for gasoline that compete with us. This aggregation of units in the business acts in effect, as a single force against which we are obliged to contend and should be viewed from this angle rather than from the standpoint of a single individual, who enters the business with one station and finds a situation in some lines of this business that will not admit of his one station serving.

Before this contract was made effective the situation that confronted us was the prospect of losing business in a large way through concessions made by our competitors to the more attractive type of trade heretofore described and to such a degree as to force us to adopt this wide-open and above-board plan as a matter of protection. It does not go one step farther in discount off the price than did the methods of the competitor that resulted in this business going to others.

It does not tie to us all of the business in Wisconsin. There are 21 counties in which we have no service stations at all. Even in the parts of the State we occupy, a survey of this class of business existing in two of our principal Wisconsin divisions develops that we have only about one-third of the possibilities, the balance buying from others. It does not tie to us all of the requirements of a customer that has a contract with us, for the reason he is at liberty to buy elsewhere and our experience is—and the record shows—that this is done.

This seems to be the crucial point in this entire investigation. Many witnesses have testified that they are unable to compete with our contract in so far as the business of those buying from service stations in different towns is concerned and by such general statements have built grounds for the assumption that through this contract our company has secured substantially all of the business of this character. In order to develop the real facts I directed an intensive investigation of the true conditions and under my direction there was assembled complete data covering all of the known individuals and companies operating motor cars in more than one place in our two principal divisions in the state and whose yearly requirements of gasoline would be sufficient to entitle them to discounts under our form of discount agreement.

I am prepared to submit this information in such detail as the Commissioner may desire. Merely to summarize it at this time I will say that there are scores of gasoline consumers of this class who do not buy from us at all but make their purchases from other Wisconsin oil companies; that of those who do buy from us a great many purchase a part of their requirements from other companies despite the fact that they have contracts with us under which they might purchase all; and that instead of having gained a monopoly of this type of business through the use of our contract we have, after more than half a year of active solicitation, covered by contract less than 40 per cent of this business. Despite the broad general statements concerning the alleged inability of our competitors to compete for this class of business the truth is that they do actively and successfully compete with us in this branch of the gasoline business, as in all others.

OKLAHOMA FIELDS

(Continued from Page 137)

building a rig for No. 1 Smith, NE cor. NW SW, Section 4-14-8; the Prairie Oil & Gas Co. was drilling at 175 feet in No. 3, NW cor. NE NE, Section 11-14-8, and C. G. Tibbens was drilling his No. 8, NW cor. SE SE, Section 12-14-8, at 210 feet.

J. B. Grieves abandoned his No. 3, CSL SE SE SW, Section 12-19-8, at 2,924 feet. Burlingame and Sharp were drilling at 900 feet in their No. 4, CNL NW SW NW, Section 13-19-8, the same section in which the Gled Oil Co. completed No. 2, SE cor. SW, for 200 bbls. after a shot of 120 quarts in sand at 2,261-2,306 feet, and No. 1, SW cor. NW NW, for 100 bbls. following a 100-quart shot at 2,350-2,421 feet. The Gled Oil Co. also had timbers on the ground for No. 3 Ella Peters, CSL SE NW NW, Section 13, and the Devonian Oil Co. had a rig up for No. 3 Miller, NE cor. SE NE, Section 14-19-8.

The Sapulpa Refining Co.'s No. 2, CWL SE NW, Section 1-18-7, was drilling at 1,320 feet. The Riverside Oil Co.'s No. 1, C SW SE SW, Section 6-18-7, which had a hole full of water in sand at 2,300-60 feet, drilled into the Bartlesville sand at 2,385-2,463 feet and found a hole full of oil. It was swabbing 20 bbls. but was not completed. The Dixie Oil Co. was drilling its No. 1, C NW NW SW, Section 12-18-7, at 620 feet.

A rig was completed for J. B. Grieves' No. 1 Lulia King, SW cor. SE, Section 12-18-8. B. J. Chronic abandoned No. 1, SE cor. SW SW, Section 14-18-8, as a failure at 3,320 feet.

Madden and Madden had timbers on the ground for No. 1 Marshall, SE cor. SW SW, Section 30-18-10.

In the Bristow district, Alvard and West also had timbers on the ground for No. 4 Fry, CEL NW SE, Section 14-17-8. In this section, the Transcontinental Oil Co. completed No. 3, NE cor. SE SW, for 20 bbls. after a 100-quart shot in sand at 2,270-90 feet. Total depth was 2,291 feet.

The Roxana Petroleum Corp.'s No. 1, C NW SE SW, Section 18-17-8, was shot with 30 quarts and made 35 bbls. from sand at 2,557-82 feet, total depth being 2,595 feet. The Transcontinental Oil Co. had timbers on the ground for No. 1-A Mitchell, SE cor. NE SW, Section 22-17-8.

The Independent Oil & Gas Co.'s No. 1-A, in the SW cor. SE SW, Section 19-17-10, was shot with 30 quarts at 2,112-37 feet, and made 40 bbls. after-

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ward. Total depth is 2,140 feet, and the well is not completed.

Kischner and others' No. 1-C, SW cor. NE SE, Section 23-17-10, flowed 310 bbls. from sand at 2,491-2,521 feet. Baker and Warren were building a rig for No. 1-A Dawson, CWL NW SW, Section 24-17-10. In this same section, J. H. Wright completed No. 8, C E half NE SW, good for 50 bbls. after a 100-quart shot in sand at 1,825-73 feet.

The Wilcox Oil & Gas Co. had a rig up for No. 6 Hamilton, SW cor. NE NE, Section 32-16-9.

Okfuskee County

In McIntosh County, the Kingwood Oil Co. had a rig on the ground for No. 5 Griffin, C SE NE NE, Section 6-12-14. The Tiger Mountain Oil Co. was also drilling at 420 feet in a new test, No. 1, C SW SW SW, Section 12-11-14.

The Beggs Oil & Gas Co. spudded No. 1, C SW SW SW, Section 2-12-15.

Haun and Evans abandoned their No. 1, C NE NE NE, Section 4-10-13, as dry at 3,762 feet.

South of Okemah in Okfuskee County, the Gilcrease Oil Co.'s No. 1 Wind, C SE SE NE, Section 35-11-9, made 100 bbls. from sand at 3,159-72 feet.

The Champlin Oil & Refining Co.'s No. 8, C SE NE NW, Section 22-11-11, was drilling at 300 feet. Frank Havel spudded his No. 1, C NE NW SW, Section 23-11-11, and the Riverland Oil Co. likewise spudded No. 1, C NW NW, Section 30-11-11.

A rig was on the ground for Lou Umburn's No. 1 Hill, C NW SE NW, Section 11-10-11, an old well to be deepened. The Amerada Petroleum Co. had a 15-bbl. showing in No. 1, C SW SW NW, Section 18-10-11, after a shot of 80 quarts in sand at 3,078-84 feet.

The Barnsdall Oil Corp.'s No. 3 Morgan, C SW SW SE, Section 3-12-11, was a rig, and J. J. Deaner had a rig on the ground for No. 3 Grayson, C SE SE SW, same section. McMahon and others also had a rig on the ground for No. 1 Morgan, C SW SE SE, same section. The Phillips Petroleum Co. was building a rig for No. 1 Randall, C NW NE NE, Section 10-12-11, and the Barnsdall Oil Corp. for No. 1 Randall, C NE NW NE, Section 10, and for No. 2, C NW NW NE, same section.

The Amerada Petroleum Corp.'s No. 12, C SE NE NW, Section 13-12-11, was shot with 7 quarts and made 68 bbls. from sand at 3,364-71 feet. It was not completed. The Independent Oil & Gas Co. and Anglo-Texas Co., however, completed No. 7-A, C SW NW NE, same section, for 30 bbls. and a show of water at 3,360-68 feet. The Independent Oil & Gas Co. was building a rig for No. 2 Hill, C SW SE, Section 15-12-11, and Hartman and Mann were building a rig for No. 2 Holmes, C SE SW SW, Section 22-12-11.

Muskogee County

In Muskogee County, C. M. Bradley was drilling his No. 1, CSL NW SW, Section 5-14-19, at 500 feet.

The Papoose Oil Co. was drilling at 350 feet in No. 1, C SW SW NW, Section 14-15-15. The Brothers Oil Co. abandoned No. 2, C NW NW NE, Section 33-15-15, as dry at 2,400 feet, after finding no pay in sand at 2,190-2,204 feet.

Lincoln County

In the Skellyville Pool, the Carter Oil Co. shot No. 3, SW cor. SE SE, Section 6-15-6, with 10 quarts and increased its production only 20 bbls. to 68 bbls. Sand was found at 4,068-70 feet.

Garfield County

Three old wells in the Garber Field were rigging up to drill deeper. These are: Sinclair Oil & Gas Co.'s No. 6 N. Walker, CNL NW NE, Section 13-22-4w, total depth being 1,618 feet; Roxana Petroleum Corp.'s No. 15 Schroeder, CNL NW SW, Section 18-22-3w, at 2,331 feet; and the same concern's No. 7 Schroeder, CWL NW SW, same section, at 2,367 feet.

Kingfisher County

A new Kingfisher County test is being started by the Marland Oil Co. in No. 1 Criner, C SW SW NW, Section 12-18-5w. The location has been staked.

Grady County

In western Grady County, Chickasha district, the Nicklos Oil & Development Co.'s No. 2, C E half SW NW, Section 25-5-8w, was a 45,000,000-foot gasser in sand at 2,200-2,434 feet. Rock pressure was 745 pounds. The Magnolia Petroleum Co. was cementing the 12-inch casing at 253 feet in its No. 2, C NE SW, Section 35-5-8w. The Skelly Oil Co.'s No. 2, C W half NW SW, same section, had broken sand at 2,150-2,351 feet, estimated at 3,000,000 feet of gas and was completed.

In southeastern Grady County, the Magnolia Petroleum Co. was building a rig for No. 1 Cochran, C NE SW SW, Section 27-3n-5w, and the White Eagle Oil & Refining Co. had a bad hole at 60 feet in No. 1, NW cor. NE SW, same section. The Magnolia had another rig on the ground for No. 3 Carter, CEL SE NE NE, Section 28-3n-5w, and McBride and others were rigging up a rotary for No. 1 Mitchell, NE cor. SW, Section 34-3n-5w. This activity follows completion of the Carter Oil Co.'s No. 1, CSL SW NE SW, Section 35-3n-5w, which flowed 215 bbls. the first 24 hours and pumped 170 bbls. from sand at 1,489-1,505 feet. The Carter Oil Co. was drilling at 77 feet in No. 3, CEL SE NE NE, Section 35-3n-5w.

In the Chickasha Field, Grady County, the Prairie Oil & Gas Co.'s No. 3, C E half SE NE, Section 22-5n-8w, was completed for 38,000,000 feet of gas at 2,090-2,342 feet. The Oklahoma Natural Gas Co.'s No. 3, C NE SW NW, Section 23-5n-8w, was also a completion good for 41,000,000 feet of gas at 2,119-2,390 feet. A smaller well, estimated good for 5,000,000 feet of gas was finished by Westerfelt & Noble in their No. 2, CSL SE SW SW, Section 24-5n-8w. A rig was up for Nichols' No. 2 Dryden, C NW SW SE, Section 35-5n-8w. In this same section, the Magnolia Petroleum Co.'s No. 5, C SW NE, made 12,000,000 feet of gas at 2,143-2,233 feet.

Bicker and Reed had a rig on the ground for No. 1 Thompson, C NE NW, Section 19-4n-6w.

The Garvin Drilling Co. and others were cementing 20 feet of 12-inch surface pipe in No. 1, SW cor. NW, Section 5-3n-5w. McBride and associates were drilling at 50 feet in their No. 1, NE cor. SW, Section 34-3n-5w. The Carter Oil Co. was also rigging up a rotary for No. 3 Lindsay, C W half NE SW, Section 35-3n-5w.

Briscoe and Hall were drilling No. 1-A Dickerson, C SW NE, Section 11-4n-8w, at 600 feet.

Pawnee County

West of the Watchorn Pool, Pawnee County, the Magnolia Petroleum Co.'s No. 2, C SE SE NE, Section 5-22-3, was completed with a shot of 40 quarts in sand at 4,070-4,115 feet after plugging back to 4,107 feet and pumped 10 bbls. with some water.

Southeast of Pawnee, the Independent Oil & Gas Co. moved in a rig for No. 1 Means, C SW SW SW, Section 1-21-6.

The Mid-Continent Petroleum Corp.'s No. 5, SW cor., Section 36-21-7, was a 6-bbl. well in sand at 2,312-30 feet, total depth 2,346 feet, after a shot of 60 quarts.

In the Terlton district, Adamson shot No. 6, CWL NW SW, Section 32-21-8, with 40 quarts and it made 25 bbls. afterward from sand at 2,925-50 feet. In Section 26-21-8, the Pulaski Oil Co. decided not to deepen No. 9, CSL SW SE, but abandon the hole at 2,457 feet.

The Mid-Continent Petroleum Corp.'s No. 17, CSL SE SW NW, Section 16-20-7, was a 25-bbl. well after it was shot with 15 quarts. The sand record is 2,612-34 feet.

The Prairie Oil & Gas Co. had a 10-bbl. well at 2,679-2,705 feet in its No. 6, C SE NE NW, Section 10-20-8. The Selby Oil & Gas Co. was rigging up to deepen its No. 1 Dunn, NW cor. NE SE, same section. In Section 21 of this township, however, McNamara and West failed to find pay sand and plugged their No. 1, C SW SW NE, at 3,321 feet. The Selby Oil & Gas Co.'s No. 6, CEL NE SE, of Section 23-20-8, was a 60-bbl. producer in sand at 2,820-29 feet after a 10-quart shot.

The Marland Oil Co. of Oklahoma was drilling at 3,452 feet in an old well which is being deepened from 3,348 feet. This is No. 1 Malbins, SE cor. NW, Section 33-20-5. The Magnolia Petroleum Co. was spudding No. 1, NW cor. SW, Section 2-20-6. This same concern completed a 100-bbl. producer at 3,110-24 feet in its No. 2, SE cor. NE NE, Section 21-20-6, after shooting it with 30 quarts. The Riverside Oil Co. had timbers on the ground for No. 1 School Land, C NW SW NE, Section 36-20-6.

Evert and others abandoned their No. 2, SW cor. SE NE, Section 32-20-9, at 3,175 feet.

Schaubel and Breslyn's No. 1-A, NW cor. SW NE, Section 6-20-8, was completed for 25 bbls. naturally from sand at 2,505-48 feet. The Tidal Oil Co.'s No. 3 Arnold, SE cor. SW, Section 3-20-8, an old well drilling deeper, had 1,600 feet of oil and 10 feet of water in the hole from sand at 2,803-05 feet, and was swabbing to test.

The Mid-Continent Petroleum Corp. was building a rig for No. 18, SE cor. NW SW, Section 16-20-7.

In the Watchorn Pool district, northwestern Pawnee County, the Magnolia Petroleum Co. had a cellar dug for No. 3 Arkeketa, C NE NW NW, Section 9-22-3e.

An interesting test for deeper sands is the Marland Oil Co.'s No. 1 Alexander, C NE NW, Section 11-25-3e, Osage County, which has been producing a little oil for a long time. It was completed in 1919 for 30 bbls. from sand at 3,565-74 feet, and now the pipe is being pulled to drill deeper. A test located in the NW cor. SE, of the same section, was drilled to the Wilcox sand in 1922, by the Comar Oil Co. It was abandoned at 4,131 feet.

In the north end of the South Ponca Field, Kay County, the Marland Oil Co. staked a location for its No. 1-A Rhodes, CWL E half NW, Section 4-25-2e.

East of Blackwell, Ballentine and others had a Star machine up for No. 3 Wildegrube, NE cor. NW, Section 28-27-1e.

In the southeastern corner of Noble County, the Skelly Oil Co. had a cellar for No. 1 Tillman, C SW SW NW, Section 13-22-2.

In the North Braman Pool, the Comar Oil Co. completed No. 6, C SW NE SW, Section 21-29-1w, for 40 bbls. naturally on the pump from sand at 2,346-75 feet, and total depth 2,377 feet. No. 13 on this lease, C NW SW SW, was drilling at 455 feet.

In the next township west, the Marland Oil Co.'s No. 1, NE cor. Section 13-29-2w, was completed for 235 bbls. of oil and 112 bbls. of water on the swab. Sand record is 3,871-73 feet.

In the South Braman Pool, the Comar Oil Co. had a rig up for No. 5 McCullough, C NW NW SE, Section 5-28-1w, and was building a rig for No. 2-A Orr, C SW SW NE, same section, and was drilling at 165 feet in No. 1-W, C NW NE NW, Section 8-28-1w, and was building a rig for No. 4 Horn, CSL SW NE NW, same section.

North of Blackwell, the Harold Petroleum Co. was drilling No. 4, C SE SE SE, Section 4-27-1w, at 630 feet, and had a rig on the ground for No. 5 Kelly, C SW SE SE, same section. The Otstot Development Co. abandoned a deep test, No. 1, C SW SW NE, Section 7-27-1w, at 4,010 feet. The Blackwell Oil & Gas Co. was building a rig for No. 1 Moore, C NE NE SW, Section 8-27-1w, and was drilling No. 6, CEL NE NE, Section 9-27-1w, at 985 feet, and was rigging up No. 7 Geiger, C NW NE NE, same section. Harris and Haun were drilling at 350 feet in No. 4, C NW SW, same section. The Carter Oil Co.'s No. 3 Jamison, C SE SE NE, Section 17-27-1w, was drilling at 120 feet.

In the Thomas Pool, the Marland Oil Co. was drilling No. 8, CNL NE SW SW, Section 15-25-2w, at 605 feet.

Stephens County

The Skelly Oil Co. completed its No. 1, C SW SW SE, Section 34-1s-5w, for 15 bbls. on the swab from sand at 1,559-68 feet after plugging back to 1,610 feet from total depth of 2,727 feet.

The Central Producers Co. finished a

4,500,000-foot gasser in their No. 1 Crump, NW cor. SE SE, Section 10-2s-5w, in shallow sands at 270-300 feet, 520-40 feet and 640-68 feet, total depth.

In the eastern part of Stephens County, the Magnolia Petroleum Co. completed its No. 7 Seybold, CSL SE NW SW, Section 8-2s-4w, estimated good for only 6 bbls. in oil sand at 990-1,007 feet. No. 10, on this lease, CWL NW SW, was completed for 1,724,000 feet of gas at 967-82 feet.

Along the western line of Stephens County, the Magnolia Petroleum Co.'s No. 5, C S half SE SE, Section 25-1s-9w, was a completion making 96 bbls. from sand at 1,963-80 feet, bottom of hole being 6 feet deeper. Gravity of this oil tests 44.5 degrees. The company was spudding No. 5, C NE NW SE, Section 33-1s-8w, and had a rig on the ground for No. 16 Kagy, C SE NW SW, Section 34-1s-8w. Murchison and Fain had a rig on the ground also for No. 1 Evans, NE cor. NW, Section 36-1s-8w. Muse, Pace and Robinson abandoned their No. 1-A, NE cor. SE, Section 4-2s-8w, as dry at 2,619 feet.

In the southern part of the county, Winklin and McQueen plugged their No. 1, C SW SE SW, Section 2-3s-6w, as a failure at 2,005 feet.

A duster was abandoned by the Murphy Oil Co. at 1,262 feet in its No. 3, CWL SW SE, Section 2-1n-5w.

Pierce and Brown were drilling at 75 feet in their No. 1, CEL, Section 13-1n-9w.

In the northeastern corner of Stephens County, the Pauline Oil & Gas Co. was building a rig for No. 1 Simms, C SW SE SE, Section 7-2n-4w.

Gamble and others had a rig up for No. 1 Reavis, CSL SE SE SE, Section 25-1s-9w, and the Magnolia Petroleum Co. had a rotary rig built for No. 7 Reavis, CWL SW SE SE, same section. Winkler and McQueen also had a rotary rig built on the church lot, for No. 1 Reavis, CSL SE SE, same section.

The Safety First Oil Co.'s No. 7 Rockwood, CWL SW NE SW, Section 20-1s-8w, was drilling at 700 feet. It is a twin well to No. 7. Beard and Kolb completed a rotary rig for No. 1 Dickens, SW cor. Section 30-1s-8w.

Carter County

The Magnolia Petroleum Co. completed its No. 9, C NW NE SE, Section 23-2s-3w, for 8,000,000 feet of gas from sand at 1,556-75 feet and 1,805-20 feet, after plugging back from 3,050 feet to 2,710 feet, and ripping the 8-inch casing. The same company's No. 3, C NW SW NE, an old well deepened, had oil sand at 2,585-2,611 feet, and drilled a foot deeper into shale. The well swabbed 175 bbls. the first 24 hours and 135 bbls. the second day. The Sturm Drilling Co. was rigging up No. 1 Moncrief, NE cor. SE NE, Section 32-2s-3w.

The Roxana Petroleum Corp. swabbed 75 bbls. from its No. 1, C SW SW SE, Section 6-2s-2w, from sand at 1,712-40 feet, total depth 1,741 feet. The Magnolia Petroleum Corp. was building a rig for No. 1 Cox, C NW NW NW, Section 22-2s-2w.

In the northwestern corner of Carter County, the Gilmer Oil Co. had a rig in place for No. 2 Hernstadt, C SE SW NE, Section 34-1s-3w, and a rig on the ground for No. 3, C NW SW NE, same section. The Magnolia Petroleum Co.'s No. 2, C NE NW SE, Section 34 pumped 80 bbls. from oil sand at 3,168-80 feet, with total depth at 3,191 feet. The Simpson-Fell Co. was drilling at 581 feet in its No. 2, C NE SE NW, Section 34.

The Atlantic Oil Producing Co.'s No. 1, C NW SW NE, Section 19-1s-3w, was estimated as a 60,000,000-foot gasser in broken sand at 2,630-3,176 feet but was not completed. The Magnolia Petroleum Co.'s No. 1, C SW SE NW, Section 31-1s-3w, was drilling at 1,010 feet, and the Simpson-Fell Oil Co. had a rotary rig up for No. 3 Panill, C NW SE NW, Section 34-1s-3w.

The Carter Oil Co. completed No. 2, SW cor. Section 22-2s-3w, which pumped 90 bbls. initially from sand at 2,215-79 feet, and at latest report was pumping 70 bbls. daily. In the same section, the Humble Oil & Refining Co. was rigging up a rotary for a twin well, No. 8 Carpenter, CSL SE NE NE. The Magnolia Petroleum Co. was drilling at 815 feet in its twin well, No. 4, CSL SW NW NW, Section 23-2s-3w. The Sturm Drilling Co. was drilling at 50 feet in No. 1, NE cor. SE NE, Section 32-2s-3w.

The Coline Oil Co.'s No. 3, C NE SW SE, Section 7-2s-2w, was drilling at 220 feet. The Magnolia Petroleum Co.'s No. 1, C NE SE SE, Section 16-2s-2w, was swabbing 75 bbls. daily from broken sand at 1,225-58 feet, not completed. Hivick and others' No. 1, SW cor. NW NW, Section 25-2s-2w, was spudding. F. W. Merrick and others' No. 1, C NE NW NE, Section 27-2s-2w, pumped 30 bbls. the first 7 hours from broken sand at 1,098-1,147 feet.

Cotton County

McBee and others were cementing 40 feet of 12-inch surface casing in their No. 1, NW cor. NE, Section 21-1s-10w.

Tillman County

Landfair and others were drilling their No. 1, C SE SW SE, Section 6-2s-16w, at 1,000 feet.

Jefferson County

The Pure Oil Co.'s No. 1, SW cor. SE, Section 28-6s-5w, was dry and abandoned at 1,780 feet. Brown and others had a rig up for No. 5 Seay, SW cor. NE NW, Section 33-6s-5w. The Carter Oil Co.'s No. 3, CWL NW NE, same section, was estimated good for 20 bbls. in sand at 1,310-31 feet, total depth being 1,334 feet. The same company's No. 4, CSL NW NE, same section, was completed flowing and swabbing 565 bbls. of 36 gravity oil from sand at 1,320-37 feet.

Comanche County

Cook and Graham completed their No. 1, CSL SW SE NE, Section 4-3n-10w, for an estimated 1,000,000 feet of gas in sand at 1,356-76 feet. Total depth is 1,451 feet. The same interests moved in a machine for No. 1 Gamble, SW cor. Section 34-4n-10w.

The Day Oil Co. abandoned No. 1, C SE SE NE, Section 28-3n-9w, as dry at 2,885 feet.

Stanford and Mayre were rigging up a rotary for No. 3 Correy, NE cor. SE, Section 23-2n-10w. Green and others had a rotary rig up for No. 1 Craddock, C SE SW NW, Section 24-2n-10w, and the Humble Oil & Refining Co. also had a rotary rig in place for No. 1 Schultz, C NW NE SW, same section. Another rotary outfit was up for Westheimer and Daube's No. 1 Ziegler, NE cor. SE NE, same section.

In southeastern Comanche County, the Magnolia Petroleum Co.'s No. 1, C NE NE SW, Section 30-2n-9w, had gas at 2,188 feet, oil at 2,190-92 feet, and flowed 140 bbls. the first 17 hours. When put on the pump, the output was 30 bbls. daily. The same company has a rig on the ground for No. 2 Rugsby, C SW SW SW, Section 30.

A rotary rigs was up for Shaw and Rathke's No. 1 Schultz, CNL NE SW SW, Section 24-2-10w.

Brewer, Stacey and others abandoned their No. 1, C NW SW NE, Section 27-2n-10w, as dry at 2,328 feet.

In southern Garvin County, the Magnolia Petroleum Co.'s No. 11, C W half SW NW, Section 16-1n-3w, was drilling at 200 feet. The Texas Company's No. 12, SE cor. SW NE, Section 17-1n-3w, was drilling at 200 feet. The Magnolia Petroleum Co.'s No. 8, C SW NW SE, Section 16-1n-3w, was a rig, as was the Carter Oil Co.'s No. 7, SW cor. SE NW, Section 17. The Mid-Continent Petroleum Corp. was drilling at 300 feet in No. 3, SW cor. NW SE; The Texas Company at 1,100 feet in No. 12, SE cor. SW NE; and the same concern had a rig up for No. 1 H. Derdyn (B), CNL NE NE SE, all in Section 17.

KANSAS FIELDS

(Continued from Page 53)

first oil having been at 1,999 feet. Gravity of the crude was 42 degrees.

The Transcontinental Oil Co. plugged its No. 1, C NW SW NE, Section 3-22-10, as a failure at 2,275 feet. The Empire Gas & Fuel Co. was drilling its No. 6, C NE SE NW, Section 6-22-10, at 510 feet. Pryor and Lockhart abandoned No. 6, C NE NE SE, Section 13-22-10, at 2,150 feet.

A rig was up for the Sinclair Oil & Gas Co.'s No. 32 Browning, C NE NE SW, Section 20-22-10, and a rig was being erected for the Skelly Oil Co.'s No. 2 Prather, C NW NW SE, same section. The Neely Oil & Gas Co. was drilling its No. 1, C NW NW SE, Section 27-22-10, at 700 feet.

The Texas Company and the Tidal Oil Co. each has three new operations in Section 29-22-10. These are: The Texas Company's No. 6 Prather, C NW SW SW, No. 7 Prather, C SE NW SW and No. 8, C SW NE SW, all with rigs up. The Tidal Oil Co.'s No. 8 Prather, CSL SE NW NW, and No. 13 Prather, C NW, were rigging up, and No. 14, C S half NW, was drilling at 600 feet.

The Prairie Oil & Gas Co. was rigging up No. 2 Hartley, C SW NW NE, Section 1-23-9, and the Skelly Oil Co. was spudding No. 3, C NE NW NW, same section. The Manhattan Oil Co.'s No. 6, C NE SE NE, Section 2-23-9, was drilling at 880 feet.

A rig was being built for the Empire Gas & Fuel Co.'s No. 12 Keifer, C SE NW SE, Section 11-12-11. The same concern's No. 9, C SE NW NE, Section 14-22-11, was completed for 100 bbls. after a shot of 150 quarts in sand at 1,861-1,916 feet. No. 6, in the C SW SE NE, Section 15-22-11, was drilling at 355 feet.

The Texas Company's No. 1 Fankhouser, C NW NW NE, Section 4-22-12, had a rig on the ground. Rigs were completed for the Phillips Peroleum Co.'s No. 2 Chandler, C SW NE NE, Section 5-22-12, and for the same company's No. 1 Jones, C SW NW SW, same section. The Derby Oil Co. and associates had a machine in place for No. 1 Holderman, C SE SE SE, Section 9-22-12.

A rig was completed for T. K. Simmons' No. 1 Molar, C NW SW NW, Section 3-23-12.

A 20-bbl. well was completed by the Theta Oil Co. in its No. 12, CWL SW, Section 3-23-13, Virgil district, in sand at 1,788-1,810 feet, following a shot of 80 quarts. The Mid-Continent Petroleum Corp. was rigging up No. 4-A Dehlinger, C NE SE NE, Section 28-23-13, and No. 5-A, C SW NE NE, same section.

The Mid-Kansas Oil & Gas Co. completed No. 7, C NW SW NW, Section 20-25-9, as a 125-bbl. well after a shot of 100 quarts in sand at 2,323-91 feet.

North of Twin Falls, Smith and Ash spudded their No. 2 Jackson, CSL SE NW, Section 14-26-11.

The Prairie Oil & Gas Co. was drilling at 925 feet in its No. 1 Friend, C NW NE SE, Section 7-27-13, a wildcat, about 8 miles east of Twin Falls.

Lyon County

About 12 miles east and a little south of Emporia in Lyon County, Bailliere and others were drilling at 487 feet in No. 1, C SE SE NE, Section 33-19-13.

In the Ritchie-Moore Pool, Ritchie and Moore were drilling their No. 6, C SE SW, Section 34-21-10, at 490 feet.

Haviland and others spudded their No. 1, C SE NE NE, Section 7-20-13, in an effort to extend the Golden Lane farther into Lyon County.

In western Coffey County, the Peerless Oil Co.'s No. 1, NW cor. SE SE, Section 25-22-13, (corrected location) was drilling at 1,000 feet.

In Chase County, the Vickers Petroleum Co. had a rig up for No. 1 Nichols, C SW SW NW, Section 16-20-7.

In the southeastern corner of the county, Dingee, Pryor and Lockhart were drilling their No. 1, C NE NE NW, Section 14-22-9, at 600 feet.

Butler County

In the Atlantic Pool, Butler County, the Amerada Peroleum Corp. completed No. 1, C SW SW SE, Section 15-28-7, for 90 bbls. of oil and 180 bbls. of water from sand at 3,090-93 feet.

In Butler County, west of the old El Dorado Pool, the Vickers Petroleum Co. has a rig up for No. 1 Varner, C NE NE SW, Section 29-25-4.

The Empire Gas & Fuel Co. abandoned its No. 163, C SE NW NW, Section 8-25-5, at 750 feet.

W. G. Sanford's No. 1, C NE NE NW, Section 12-26-6, was dry and abandoned at 2,789 feet. Connell's No. 3, C NW NW SW, Section 27-26-7, was drilling at 650 feet. W. Hoyt's No. 1, C SW SW NW, Section 32-26-7, was dry and abandoned at 3,158 feet.

The Phillips Petroleum Co. was drilling its No. 1, C SW SW NW, Section 9-27-6, at 200 feet.

The Amerada Petroleum Corp.'s No. 2, C SW SW NW, Section 27-27-7, which had a pay sand at 2,753-58 feet, was plugged back 10 feet from 2,770 feet and shot with 60 quarts after which it made 15 bbls. The same company had a rig building for No. 6, C SE SE NW, same section.

The Phillips Petroleum Co.'s No. 4, C SW NE NW, Section 27-27-7, was a 200-bbl. well in sand at 2,722-57 feet after a 120-quart shot. The same concern's No. 4, C SW NW SW, Section 27, was completed for 950 bbls. following a shot of 117 quarts in sand at 2,707-43 feet. No. 5, on this lease, C NW SW SW, was good for 400 bbls. when shot with 120 quarts at 2,710-55 feet. A rig was up for No. 8, C SE NW SW, Section 27.

The Phillips Petroleum Co. and White Eagle Oil & Refining Co.'s No. 1, C SE SW SE, Section 28-27-7, was completed for 40 bbls. in sand at 2,706-39 feet, with first oil at 2,717 feet. It was shot with 60 quarts. John Rodgers had a 30-bbl. well following a 200-quart shot in No. 4, CWL SW NE NE, Section 33-27-7. Sand was found at 2,727-60 feet and lime was topped at 2,797 feet, total depth being 2,800 feet. A rig was in place for No. 6 Laughlin, CSL NE NE, Section 33.

Ables and others' No. 2 Bittler, C NE SE NE, Section 30-26-8, was shut down at 250 feet. The Cowpunchers Oil Co. was rigging up No. 3 Bittler, C N half NE SE, same section.

About half way between the Augusta and Leon Pools, the Neely Oil & Gas Co. was drilling No. 1, C SW SW NE, Section 33-27-5, at 750 feet.

Northeast of the Fox-Bush Pool, the Mid-Kansas Oil & Gas Co. was building a rig for No. 1 Pettit, C NW NW NW, Section 21-28-6. J. Connell pumped 135 bbls. the first 12 hours from his No. 1, C NE NE NE, Section 20, from sand at 3,138-43 feet, but the well was not completed.

Elk County

The Empire Gas & Fuel Co.'s No. 1, C NW NW, Section 22-31-9, was completed for 750,000 feet of gas at 1,488-97 feet.

In Other Counties

Near Pretty Prairie in southern Reno County, Tatlock and others had a rig built for No. 1 Demoset, C SE SE SW, Section 30-26-6w.

In eastern Kingman County, Crawford and McKenna were drilling their No. 1, C NE NE NW, Section 31-28-5w, at 500 feet. Just two townships to the west, Fleeger is drilling No. 1, C NE NE NE, Section 13-28-7w, at 310 feet. Hawes and Smith have a rig up for No. 1 Kernif, C NW, Section 35-30-9w, along the south line of the county.

In Ellsworth County, Wrightsman and Phillips were drilling their No. 1, C SW, Section 3-16-8w, at 600 feet.

MADE CHIEF ENGINEER

The National Gas Products Corp. of Los Angeles has signed a contract with R. L. James to be its chief engineer. Mr. James was formerly with the General Petroleum Corp., and was one of its engineers in Mexico during the construction of that concern's refinery there. He constructed all the plants for the Pacific Gasoline Corp. and installed several new processes in the making of casinghead gasoline in the California fields. The National Gas Products Corp. is putting on the market a portable gasoline plant and Mr. James will have charge of the engineering department.

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DEEP TEST WELL NOW DRILLING IN NORTH FLORIDA

T. F. Bray and associates from Arkansas are now drilling a deep test well for oil and gas located on the Monticello Dome in Jefferson County, Florida. Send for structural and drainage map; also geological report.

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Can furnish practically proven leases in Artesia Field, Eddy County. Also other tracts in Eddy, Chaves and Lea Counties. Particulars on request.

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170,000-ACRE BLOCK potential oil and cotton land. Fee $5.00 per acre. South Artesia, New Mex. region, across the line in Texas. U. S. Geological Survey reports Lower Permian Exposure, shallow Pennsylvanian. Dome structure. Texas Bureau Economic Geology reports 1,000 feet oil shales underlying, two horizons 1,800 and 3,400 feet. For sale due to age of owner. P. O. Box 625, Dallas, Tex.

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HAVE SOME blocks, Coleman and Brown Counties, 1,000 to 2,000 acres in each block; geological work by recognized men, $2 to $5 per acre bonus. Plenty of time to start drilling. For full details address Box 1357, Fort Worth, Tex.

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In Texas County, Oklahoma, one gas well, six wells now driling. This is said to be the biggest wildcat in the state. The eyes of the world are on the Panhandle of Oklahoma and Texas. Send 25 cents for map showing locations of blocks, wells, checkerboarding. Oil leases and royalties for sale.

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30,000 acres Crockett County, large and small blocks; adjoining big companies; scattered wildcat. Also close-in adjoining World well block.

20,000 acres 10-year leases; low rentals; Terrell County, getting good play. Watch this county! Prices right.

Upton County. Scattered tracts.

60,000 acres one block, southeast Pecos County, on geological formation. Most attractive as to desirability, price and terms.

5,000 acres in Irion County. Ten-year lease; watch the new work here.

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Write for prices and maps. Will allow time for geological inspection.

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Reference: Mercantile Agencies

WOULD like to hear from parties wishing to invest in Oklahoma. Wildcat leases and royalties. W. H. Adams & Co., 203 Clinton Bldg., Tulsa, Okla.

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⅛ OF ⅛ ROYALTY

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Phone L. D. 6; P. O. Box No. 101
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Two miles 60-pound first-quality relaying rails.

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We buy and sell.
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All or part of a 500-bbl. a day plant. One 150-bbl., one 350-bbl. agitator, one 350-bbl. still, one Ingersoll-Rand air compressor, class FRI, steam 7x6 air 8x6, one 6'x10'x24' condenser box, four 100-gal. blow cases; one 5-bbl., one 30-bbl. mixing tank; one 1,200-bbl. steel riveted, six 320-bbl. steel riveted; three 500-bbl. bolted; ten 250-bbl. bolted steel tanks. Two 100-h.p. Nagle Stationary boilers. Some good producing properties. Cyclone tractor gasoline drilling machine. Twin 25-h.p. Oil Well Supply oil engines; 5x12 Oil Well Supply mud hog pump; two 25-h.p. Donovan fire box boilers.

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DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 117 E. 10th, Oklahoma City, Okla.

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ACETYLENE WELDING Engineer—Eleven years' experience in pipe line construction. Age 31. College education, 12 years with present company. Will furnish expert welding crew, if wanted. Box B-256, The Oil and Gas Journal, Tulsa, Okla.

AVAILABLE for immediate delivery, technically trained man with refinery experience, desires connection as assistant superintendent of small refinery. Box B-259, The Oil and Gas Journal, Tulsa, Okla.

COLLEGE GRADUATE—Young man, single, legal education and experience, desires place with oil company which affords an opportunity for intelligent effort. Box B-252, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position with reliable oil company in material or purchasing department. Eight years' experience field and office work. Now employed, can furnish best of reference. Box B-250, The Oil and Gas Journal, Tulsa, Okla.

REFINERY EXECUTIVE, experienced in the manufacture of all petroleum products, marketing, purchase of supplies and crude, also pipe line operation. Address Box B-241, The Oil and Gas Journal, Tulsa, Okla.

GEOLOGIST and exploration engineer wants job where technique and practical application of Eotvos torsion balance may be acquired. University graduate. Box B-242, The Oil and Gas Journal, Tulsa, Okla.

MARRIED MAN 30 years old with 12 years of petroleum marketing, jobbing and refining experience. Can furnish good references as to sales, executive and refining knowledge. Prefer proving worth before definite salary is arranged. Will go to foreign countries if necessary. For further communication address Box B-240, The Oil and Gas Journal, Tulsa, Okla.

FIELD MANAGER — Thoroughly trained drilling and production superintendent desires position. Considerable experience in geological and petroleum engineering departments. Graduate engineer. Age 32. Excellent character and references. Box B-234, The Oil and Gas Journal, Tulsa, Okla.

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You can acquaint thousands of oil men with your particular want or service through an advertisement in this section of The Oil and Gas Journal.

The interested readers respectfully consider the merits of every advertisement in the Classified Wants Section because they are always in the market for good deals.

Your lease, royalty, production, equipment or service would appeal to some of them.

Mail your advertisement now for next week's issue so that these men can make a deal with you.

The Oil and Gas Journal

Tulsa, Okla.

"America's Greatest Petroleum Publication"

ADDRESSES WANTED

INFORMATION desired by daughter Ethel of the whereabouts of John H. Williams, driller, formerly employed by Gypsy Oil Co. at Tulsa, Okla. Write Box B-232, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

PURCHASING AGENT
FOR
SOUTH AMERICA

Must have thorough knowledge of oil field equipment and general supplies. Duties to consist of making local purchases and drawing up requisitions for imported materials. Should also have knowledge of office supplies and preferably speak Spanish. References must stand thorough investigation as to ability and absolute integrity. A complete statement of qualifications should be submitted including age, education, positions held, references, etc., in order to secure interview. Replies will be held strictly confidential.

Write Box B-251, The Oil and Gas Journal, 30 Church St., Room 543, New York, N. Y.

DESIGNING DRAFTSMEN — Must have oil refinery maintenance and construction, or power plant and general construction experience. Salaries, dependent upon experience, from $200 to $250 per month. Give complete details, experience; education; age; date available and salary expected. Box 788, Wood River, Ill.

MORE AVAILABLE

There are other good positions available in the oil industry.

Right now, executives are reading the "Position Wanted" Column hoping to find a man of your qualifications.

Mail your advertisement now for the next weeks issue so that they can get in touch with you.

BUSINESS OPPORTUNITY

9,000 ACRES 5-year oil leases for test well 4,000 feet; only four quarters held out; four eighties within half mile of well; 85 per cent solidly blocked; water plenty; located on railroad; on structure mapped by eight leading geologists. Woods County, Oklahoma. W. A. Clark, Alva, Okla.

BUSINESS OPPORTUNITY

THE SCHEME of life is so arranged that some men have capital and need equipment, while others have salable articles and need cash. For these men, The Oil and Gas Journal Classified Section provides an excellent opportunity to broadcast their wants.

PRODUCERS—PUMPERS

Basic Sediment and Cut Oil can be treated at a cost less than one-tenth of 1 cent per barrel, and a saving in most cases as high as 60 per cent in oil reclaimed. Treat tank bottoms, slush pits, etc.

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OIL RECLAMATION CO.
1715 Georgia St., Los Angeles, Calif.

HAVE TANK CAR marketing business now selling approximately 150 cars per month. Need man and money to increase business which can easily be done with added finances. Would consider an arrangement with large reputable marketer or individual. Box B-222, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE — Complete carbon black plant, located near Thermopolis, Wyoming. This plant installed at a cost of two to three hundred thousand dollars. Must be sold at once. Write to Nate P. Wilson, 415 Con Roy Bldg., Casper, Wyo.

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WANTED

WANTED — To get in touch with worth-while oil companies or individual open to conviction as to practicability of an entirely new method of pumping and swabbing oil wells. Advertiser has spent a lifetime in solving production problems and believes he has now "arrived" and wants financial support to bring it out. Address G. A. Osborne, Princton, La.

I WISH to correspond with some oil man in regard to a new mechanical device for locating oil, scientific principles, absolutely correct. W. E. Lilly, Gage, Okla.

EXPERIENCED oil well contractor wanted. Big acreage, best geological reports, live gas escapes, located on railroad, Yucatan. Testing shallow stratas 500 feet and 1,200 feet. Water and fuel for steam power. Likely open big new field high gravity oil. Write for particulars, giving experience, kind of drilling outfit, etc. Box B-255, The Oil and Gas Journal, Room 543, 30 Church St., New York, N. Y.

WANTED — Driller with own rig capable drilling 5,000 feet. Can deliver 5,000 acres leased for test. Royalty one-eighth and one-twentieth. F. J. Shindler, Deertail, Colo.

WANTED—A reliable company or oil operator to put down a deep test well on structure in Wilson County, Texas. Max Huerlimann, 621 West Sixteenth St., Kansas City, Mo.

WANTED—20,000,000 cubic feet gas daily for gasoline and carbon black. Wire or write Box 56, Fairbanks, La.

WANTED—Producing royalties Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

WANTED — Someone to join me in drilling 1,500-foot hole on block of acreage in Miami County, Kansas. Gas now being produced on this block at 424 feet. Box 1, Sainte Marie, Ill.

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DELAWARE incorporators. Charters fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

FOR SALE—MAPS

AMARILLO DISTRICT
Correct, up-to-date maps.
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Phone 8743

Chicago Gasoline Market Still Mixed

Bulk of Sales at 10¼ Cents. Higher Tests Neglected. Price Tendency Slightly Upward at Week-End Depending on the Weather

By J. B. Waldo

CHICAGO, Apr. 10.—The southern oil men who came to the N. P. M. A. convention with light overcoats or in a few cases no overcoats at all were welcomed as harbingers of spring. The weather man has been a little more kindly during the last days of the week and there has been a great improvement in roads. With passable roads the demand for gasoline will show some increase, possibly large.

The gasoline market is decidedly mixed. There are many and these chiefly the larger and stronger organizations who are holding prices firmly at 10¼ cents for U. S. Motors. Only one of the larger local refinery offices has made public a lower price and has sold to all at 10⅛ cents, the same quotation being made to jobbers as well as for resale. Several refiners who needed to move some gasoline quoted 10 cents to the trade and around the first of April when the storm conditions were at their worst some gasoline was bought by marketers at 9⅝ cents. There was no great amount bought at this price but it has served to establish the idea of lower prices. There was no real demand and the lower prices quoted did not stimulate buying. The jobbers did not add to their purchases but by reducing their price some refiners may have deflected some of the orders to themselves that in the ordinary course of business would have gone to other refiners who did not offer concessions. One refiner who had offered the trade a 10-cent price called up a leading marketer and asked him to move some cars for him. He was told in forcible language that the refiner knew that the marketer could not afford to handle gasoline at less than a quarter of a cent margin. "Now," the marketer concluded, "if I offered you 9¾ cents you would accuse me of cutting the market price." Probably every seller of gasoline knew that under the conditions that ruled for the last two weeks price was really no inducement to the buyer. If the jobber had to buy he would get as low a price as he could but the jobbers were not ordering extra cars or filling their storage just for the sake of saving a little money with the chance that they might have to carry the gasoline if the bad weather continued.

Bulk of Sales 10¼ Cents

The bulk of the sales made during the last week have been at the 10¼-cent price. The larger organizations have held to this price and passed up and business they could only get by reducing their prices below 10¼ cents. Many of the largest distributors have held to their regular source of supply even if the price was a little higher because it pays them to do so. They buy more than occasional cars of gasoline and it pays them better to secure their supplies from the refiner that can and does maintain the quality of all his products and take care of his customers during the seasons when supplies are less plentiful and there is greater need of prompt deliveries. Such buyers secure and are entitled to a fair price and good service and they get it, while the buyer who shops around for price only may get the price at times but his average costs are often much higher and the service is just what his methods entitle him to receive.

As to buying at the convention, some sellers report that they did considerable business especially on the last day. The business was general and included much more than gasoline. Lubricating oils were bought to a very considerable extent. Kerosene was wanted. This refers simply to the business done at the convention. Others of the sellers who hoped for large business stated they did something but generally the business done at the meeting was only fair, those who did a really good trade being the exception and much of this was the closing of deals previously started and which might have been closed had there been no gathering of oil men here.

The higher tests have been rather neglected by the country jobbers and the business done has been largely for export or on contracts with distributors that make a specialty of higher quality gasoline than the Navy grade. There seem to be fewer motorists who demand a higher grade of gasoline, perhaps because the engines have been so improved that there is really little trouble experienced with the present Navy grade if it is up to specifications in all respects. The average prices asked are a quarter of a cent lower than a week ago. Right at the close of the week the price tendency is slightly upward and it is believed that improved weather conditions will be felt in a larger demand during the coming week. Natural gasoline is easy in tone, with quotatons just about the same as last week.

Kerosene Active

Kerosene continues active and firm. The demand is not unusual according to dealers here but it is steady and supplies are limited. Refiners who are able to ship kerosene are able to secure much business from refiners with distribution so that supplies are evidently limited. The price situation is very firm with refiners selling at 6¾ cents in many instances to other refiners and to their own customers while some are asking 6⅞ cents. The 42-44 gravity is seldom called for and is not being refined to any extent.

Furnace Oil Scarce

Furnace oil is scarce and strong as to price with some demand still coming in from distributors although the rush is past. This demand cannot last much longer as it is a cold weather demand. Refiners are considering next season's business and there is some thought given to the grades or grade that will be offered to the dealers as well as to the price to be charged. If the price of crude holds present indications are the price charged for an equal quality of distillate will be somewhat higher next season. Fewer contracts are also a possibility. The refiners as well as distributors have had a troublesome season. The weather was not severe when it might have been expected and when the demand should under unusual climatic conditions have begun to taper off, it was suddenly intensified by a most unusual spell of cold weather. All of which simply proves that it is a demand that will be hard to provide for.

Makers of domestic oil burning equipment are pushing the sale of their product both for immediate and future installation. One of the oil burner manufacturers advertises oil as the fuel which is always in ample supply using words to that effect. Now, many refiners have discussed the possibility of improved refining methods doing away with practically all of the grades of distillate and of gas oil leaving only a pressure distillate which can be produced in quantities but which is not adapted to the use of many of the burners at present installed. There is a demand coming for gas oil that will take every drop of that product at present prices. Of course a demand may be caused by the use of the oil burner that will make it profitable to some refiners to turn out a fuel specially adapted to meet that demand, but it will not be done at any such price as has prevailed during the past three years in this city. The oil burner manufacturers must consider the kind of fuel of which they can secure an abundant supply at a price that the home owner will pay. The larger number of domestic oil burners are installed in the homes of people of moderate incomes. One manufacturer of oil burners stated to the writer that his largest sale was not to the residents of the districts where the more wealthy lived but to owners of homes who fired their own furnace. If this is generally the case, an advance in the cost of fuel will make quite a difference with the number of burners installed. Coal men state they are not worried by the possibility of a great increase in the number of burners in their sales district. It is from the fact that the auto is within the reach of the purse of the men of very moderate income that has caused its great sale. If it were so high priced that the wealthy alone could own a car, the number owned would not today average one car for each 5.8 persons over the United States or one for each 2.9 persons in California as reported by the United States Bureau of Roads. The same reasoning applies to oil burners. Straw distillate is very firm at 4½ to 4⅝ cents and refiners have paid the former price during the week to add to their supplies. Local distributors report that they are still having a large business though not up to the great gallonage of the colder weather during the first part of last month when so many of their customers had permitted their supplies to run low expecting that mild weather would follow.

Gas Oil Hard to Buy

Gas oil is very scarce and hard to buy and there is much complaint of delays in filling orders. The gradual introduction of cracking plants is being felt by buyers who find large and reliable sources of supply removed from the market as they place their contract for a cracking plant. Just about as soon as a refiner resolves to add cracking stills he begins to store gas oil. The demand is active from all sources. Possibly if the orders placed were all filled there would be some let-up to the inquiry but the shipments are delayed until a new demand has come around and more orders must be placed as soon as the first order is filled. The very bottom price is 4¼ cents and as high as 4⅜ has been paid for a light, clean straight run gas oil.

With the exception of Smackover fuel, there is a very firm market for all grades. Even on the lower gravities prices have advanced. One dealer stated that he paid and thought the price not high for this market, $1.27 for 18-22 fuel oil, the same product for which he paid $1.15 a few weeks ago, and then thought the market was on a downward trend. There has been more inquiry in the market but several buyers after considering the suggestion, agreed it was probably due to the expiration of contracts at lower prices than prevail at present. There is no great change in the actual demand from consumers of fuel oils for power. If anything the demand is increasing. There is some falling off in the consumption of fuel oil for heat and this will be greater a little later on and make quite a difference in the demand. There are many hotels, large apartment houses, public buildings of all kinds as well as manufacturing establishments that use industrial oil burners with attendants. In the crowded districts of the city, the cleanliness and ease with which supplies of oil are delivered compared with coal has recently been noticed in several cases and there is a great advantage in this respect in the use of oil for fuel. The demand for the higher gravities is still very much in evidence and supplies are so limited that several of the oil companies specializing in fuel oils have ceased to quote or even attempt to do business in these grades. The supply of these is dwindling. One refinery that formerly sold large quantities of 22-26 fuel oil in this market has notified its trade that hereafter its grading will be a 17-20 fuel oil and so it goes. Some claim it is impossible to buy a real refinery run 24-26 fuel oil and state it can only be obtained by blending. Those buyers and others who hope for lower prices are banking their expectations on the possibility for lower prices for Mid-Continent crude and an increase in the demand for gasoline which would start some of the plants operating that made a refinery fuel oil that had not been cracked. The Sinclair people have been selling a good deal of low gravity fuel oil, as low as 16 gravity. It is a much better fuel than the gravity might suggest. Smackover fuel is still being kicked around and oil is being offered at $1.05 to dealers but it is claimed it is not a high grade oil, being in many cases the top from earthen storage. But high grade Smackover fuel oil from steel storage and really treated is offered the trade here at $1.10 a barrel. The trade say it has been offered so cheaply and freely by a couple of large oil companies with production in this field that the market for Smackover fuel is right around $1.10 with some sales at lower prices.

Lubs Are Firm

Lubricating oils are firm. There was a large business in motor oils done by refiners at the convention, tank car sales and drum lot sales being reported in large volume. This is to a very considerable extent from the larger jobbers who are getting their supplies ready for the spring driving. The Marland Refining Co. has advanced its prices in drum lots only. The price situation is very firm for motor grades. The station business is still light but is expected to improve very shortly. Nonchatter oils and similar specialties are in demand. The industrial demand shows no material change. Generally reports as to exports are rather unfavorable although some refiners have been making good sales and considerable shipments on contracts are reported from some sources. The success of the refiners or compounders of the nationally advertised brands in making contracts with distributors for exclusive sales of their product is causing some comment. There are several new competitors for this business and also a number of refiners and marketers who are asking for the business of the distributors on the ground that their oil is just as good and can be put up under the dealers own brand and make him a lot more money. The educational campaign for good oils that has been carried on by the auto companies and the larger refiners has borne its fruit and there is a growing demand for those brands that have good will created for them by the publicity given them. There is quite a feeling of elation among some of the makers of these high grade brands that they are now securing good contracts as the result of several years of hard work.

Tank Wagon Price

There has been no change in tank wagon prices over the territory except that in Kansas of the Standard Oil Co. of Indiana reduced its wagon and station prices one-half cent on April 8. At the same time announcement was made of a discount of 1 cent per gallon from tank wagon prices at all Kansas points on sales of 50 gallons or more. Oil men point out that as the greater number

of dumps are 50 gallons or more this change really makes a reduction of 1½ cents from the regular tank wagon prices prevailing previous to April 8, when the change went into effect. The explanation made by an executive of the company is that the reduction was made to meet local competition and it was further stated that conditions had been "soft" in Kansas. Several oil men from that State who were present at the convention expressed surprise at the reduction and the accompanying statement as they believed that conditions had been greatly improved and that most of the trouble as to prices in Kansas had been ironed out. The representative of the company also denied the report that it was intended to increase the margin between the tank wagon and service station price over the territory.

In Wisconsin, the hearings before the State Board of Markets are to be resumed on April 14. At this time it is the expectation of the board as voiced by Chairman Montgomery, that the Standard Oil Co. of Indiana will suggest a modification of its Q. D. A. plan which will make it comply with the ruling of the board which obliges all prices at which gasoline is sold in the State to be publicly posted. As a representative of the sales division of the Standard stated the trouble in this case is that the exact cost of the gasoline to the consumer is not known even by the Standard company until the end of the month as the discount varies with the quantity bought and may be larger one month than the next according to the purchases made. At the hearing before the Board of Markets on March 29 John Clark, vice president of the company and assistant to the chairman of the board, stated that his company desired to conform to the regulations in every way possible and that some modification of the plan might be made which would avoid any conflict between the Q. D. A. and the rule requiring all prices at which gasoline is sold to be posted. Such a modification if any is made in the Q. D. A. agreement will apply to Wisconsin only.

It is very evident from reports made by jobbers that under anything like favorable road conditions gallonage is large. The major companies expect their March figures may show a decline from the same month last year since the bad conditions have been so widespread that poor business in one section has not been made good by good business elsewhere in the territory. Those of the jobbers who are favorably situated as to conditions reported their business is better than for March, 1925, while others have had some loss of gallonage. The growth of the demand for gasoline in the southern states is marked and losses as a whole in the more northerly territory have been made good by marked increases in sales in the South. Alabama is a case in point. That State has but one car for every 12 people against an average of 5.8 people per car for the United States but the increase in the number of cars during 1925 according to population was the greatest of any state so that the change by which the decrease in sales in the northern states during the winter is made good to some extent by increases in sales in the South will grow and make for a more uniform demand for gasoline and oils the year round.

MAURICE DUGGAN DEAD

CHATHAM, Ont., Apr. 10.—Maurice Duggan, a familiar figure in the Petrolia of oil boom days, passed away recently in his eighty-seventh year. Born in Ireland, Mr. Duggan came to Canada in 1852 and followed an ox team into Enniskillen Township in 1856, a year before J. H. Williams drilled his first well at Oil Springs. In the boom years Mr. Duggan interested himself largely in oil production.

PAGEANT OF PROGRESS

1895: Look, a motor car!
1925: Look, a horse!
1955: Look, a pedestrian!

—Ziffo.

EASTERN OIL MARKET SITUATION IS NOW EXCEPTIONALLY STRONG

By N. O. Fanning

NEW YORK, Apr. 10. — Strength in the gasoline market was the feature of the Atlantic Coast refined oil situation during the past week. The Standard Oil Co. of New Jersey and Atlantic Refining Co. advanced the tank wagon price 1 cent in their territory, except in the southern states, where Standard of New Jersey raised the price ½ cent, in all but Virginia, where no advance was made. These advances follow the raising of the tank wagon market in New York and New England by 1 cent the preceding week.

Coincident with higher tank wagon prices, the tank car market was raised to 13¼ and refinery price to 13½. Little tank car gasoline can be had for less than 13½.

Export gasoline, in cases, was advanced ½ cent during the week to 28.40 cents a gallon.

The advance in gasoline is believed to reflect increased consumption in the eastern territory, as well as a generally good export demand. The Atlantic Seaboard oil situation is admitted to be exceptionally strong now in all departments, with indications pointing to still higher prices for gasoline, kerosene and fuel oil and a communication of this strength to other markets through buying by eastern refiners and marketers.

Consumption of gasoline over Easter was exceptionally big, reflecting not only improved weather but the increase in number of motor vehicles in use over a year ago. All motorists who were out on Easter day remarked the unusually large number of cars on the road. Furthermore, the motoring season had been held back somewhat, and automobile owners seemed anxious, and still do, to take their cars out on every favorable opportunity.

Export Factor

Another factor making toward strength in the eastern oil situation lies in the large export movement of oil, especially gasoline in bulk. Bulk shipments are usually handled largely from the Gulf Coast but New York has shipped at least 15,000,000 gallons in bulk during the past three weeks. In addition case exports of gasoline have been running well in excess of 2,000,000 gallons a week, making a total for the last three weeks of more than 21,000,000 gallons.

In addition exports of other products appear to be on an unusually large scale.

Gas Oil

The market for gas oil is firm, with little change in current business. The product is said to be getting somewhat scarce, however. Prices range from 5¾ cents for 28 plus to 6 cents for 32-36.

Fuel Oil

The fuel oil market is steady, and there are smaller receipts from Mexico and California. It is understood both of these sources have been drained quite heavily in recent months and unless new fields are brought in the price structure of fuel oil is expected to strengthen.

Kerosene

Kerosene continues firm, with the domestic demand somewhat lower. This is offset to some extent, so far as the East is concerned, by large case exports to South America and the Orient.

Lubricants Unchanged

The lubricating oil market appears to be in a straight-jacket. Movements seem to be exceedingly narrow. Marketers have noted in recent years a marked tendency toward stabilization in the price of this product. Only abnormal movements in the Gulf Coast market seem to break the even tenor of the price structure here.

Cylinder stocks are in better demand, and although the market for red and pale oils continues dull, prices seem to be well held.

Paraffin Wax

Paraffin wax, like lubricating oil, has changed little in price. There has been some shading in recent weeks of list prices, but now this is disappearing.

The petrolatum market is dull and prices are weak. Cream yielded about ¼ cent during the week and is now available in barrels at 5¾ cents a pound. Other grades are unchanged.

Export Market

The unusually heavy export movement of petroleum products from New York has already been noted. Shipments of gasoline during the week ended April 7 were 5,733,590 gallons, of which 3,606,000 gallons moved to Europe in bulk, and 2,127,590 gallons were shipped in cases to various parts of the world.

Kerosene shipments amounted to 6,249,975 gallons, of which 1,986,195 gallons were in bulk and 4,263,780 gallons in cases. Two large case shipments are worthy of note, one of 1,099,970 gallons and another of 1,100,000 gallons, both to the Philippines.

Lubricants moved also in volume, shipments in barrels during the week ended April 7 amounting to 2,163,750 gallons, this total not including a number of small barrel consignments of under 500 bbls. each. Exports in cases were also large, amounting to 351,080 gallons.

Petroleum asphalt exports continue large, amounting last week to 2,246,850 pounds. New Zealand was again a large buyer.

The following table shows principal exports of petroleum and petroleum products from New York during the past three weeks (figures in gallons unless otherwise noted in parentheses):

	Week Ended		
Gasoline:	Apr. 7	Mar. 31	Mar. 24
Bulk	3,606,000	6,156,867	6,801,582
Cases	2,127,590	2,209,060	2,109,450
Kerosene:			
Bulk	1,986,195	306,195	3,620,340
Cases	4,263,780	3,655,500	1,265,980
Gas oil:			
Bulk	.....	154,996	.....
Fuel oil:			
Bulk	1,088,627	.....	.....
Lubricating oil:			
Bulk	247,753	745,647	949,141
Barrels	2,163,750	1,509,400	1,558,250
Cases	351,080	273,230	305,640
Lubricating grease:			
Barrels (lbs.)	423,350	.....	.....
Paraffin wax:			
Bags (lbs.)	1,452,000	1,199,220	773,960
Barrels (lbs.)	.....	204,250	999,875
Petroleum asphalt:			
Barrels (lbs.)	2,246,850	1,863,900	2,943,000
Crude oil:			
Bulk	.....	735,928	.....
Barrels	.....	246,400	.....

The foregoing figures do not include shipments of less than 500 bbls. or 1,000 cases.

Tank Charters

The oil tanker chartering market was again active, fixtures being reported in the export and coastwise departments at rates comparing favorably with the best of the year. This augurs for a continued heavy movement of oil by water.

Vessels chartered for the California-Atlantic Coast trade included the following:

Tanker Sunbeam (Am.) 4,148 tons net, California to north of Hatteras, 76 cents a barrel, gasoline, prompt loading.

Tanker Agwiworld (Am.) 4,143 tons net, California to north of Hatteras, 79 cents, fuel oil, May loading.

Tanker Gulftrade (Am.) 4,948 tonnet, California to Fall River, 81 cents, crude oil, May loading.

Tanker Texas, (Am.) California to Fall River, crude oil, 80 cents, May loading.

Other fixtures include the following:

Tanker Tamiahua (Am.) 8,155 tons net, Gulf to north of Hatteras, three trips, 27½ cents, May loading.

Tanker Southern Isles (Br.), 2,284 tons net, Gulf to United Kingdom-Continent, 27s one, 28s two ports, lubricating oil, May loading.

Tanker Bianca (Nor.), 8,000 tons, clean oil, Gulf to United Kingdom-Continent, 27s 6d., June loading.

Tanker Massassoit (Br.), 6,000 tons, gas oil, Gulf to Nyborg, 28s one, 29s two ports, May loading.

Tanker Merope (Fr.), 8,000-9,000 tons, gasoline and kerosene, Gulf to French Atlantic, 30s 6d two ports, June loading.

Tanker Hyrcania (Fr.) 6,300-6,600 tons, gasoline or kerosene, north Atlantic to French Atlantic, 24s 6d one port, 1s extra if two ports, option loading in Gulf, 27s 6d, April-May loading.

Oil Receipts

Oil receipts by tanker at Atlantic ports, dropped off during the week ended April 7, being estimated at 459,000 bbls. daily, compared with 624,000 bbls. the preceding week, and a daily average for March of 592,000 bbls.

Receipts from the Gulf Coast averaged 271,000 bbls. a day from the Pacific Coast 68,000 bbls. and imports averaged 120,000 bbls. daily.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	April 7	Mar. 31	Mar. 24
Gulf Coast	271,000	365,000	387,000
Pacific Coast	68,000	123,000	114,000
Imports	120,000	137,000	173,000
Total	459,000	624,000	674,000

Daily Averages by Months				
1926—	Gulf	Pacific	Impts.	Total
March	317,000	97,000	178,000	592,000
February	332,000	73,000	122,000	527,000
January	279,000	59,000	96,000	424,000
1925—				
December	298,000	56,000	103,000	457,000
November	259,000	36,000	92,000	387,000
October	249,000	36,000	102,000	387,000
September	306,000	66,000	76,000	448,000
August	291,000	54,000	90,000	435,000
July	391,000	63,000	107,000	561,000
June	379,000	66,000	118,000	563,000
May	312,000	81,000	145,000	538,000
April	353,000	78,000	101,000	532,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

CARIB SYNDICATE, LTD., ANNOUNCES 1926 PLANS

NEW YORK, Apr. 10.—The first report in five years of the Carib Syndicate, Ltd., which in 1921 gave The Texas Company an option on 51 per cent of its interests, due to depressed oil conditions, was made in a communication to shareholders from J. Robert Rubin, president of the syndicate.

Control of the concern has been returned to its own officers and the anticipation is that the syndicate with all of its holdings will produce between 30,000,000 and 35,000,000 bbls. of oil during 1926. During the time The Texas Company held control, Mr. Rubin said, all Carib properties were geologically surveyed, the titles and contracts of the company were examined and certain sections of the properties were tested. The Texas Company's option was not exercised because of that company's determination not to operate outside the United States.

Holdings of the Carib Syndicate, Ltd., are located in Venezuela, Colombia, Panama and the equatorial territory, and are said to total more than 6,000,000 acres of oil lands.

BOY SMELLER LOCATES ABANDONED GAS WELL

HOBART, Okla., Apr. 10.—How a son of Julius Greaser, a farmer living northeast of Hobart, located an abandoned gas well in that vicinity by the sense of smell is told by A. V. Wey of Hobart. The well was plugged some years ago and all signs of drilling equipment and residue had disappeared and the plow has passed over the spot a hundred times. The lad, remembering just about where the site was, crawled on hands and knees with his nose near the ground. He moved slowly and flung handfuls of dirt out of the way. Finally his nose got the scent he sought. Digging a little hole, he smelled again, struck a match, and the earth blossomed a tiny blaze.

"There she is," said the lad. And there she was.

The site was located for Texas oil men who have leases in that section and who plan to drill a well. The old well was a small producer of gas, and the lad proved that gas is yet escaping from it. In that section in dry weather when the earth cracks farmers say that gas escaped through the crevasses.

Cracking Shale Oils for Gasolines

Obtain Large Yield of Motor Fuel Having Anti-Knock Properties. Method of Treating to Secure Water White and Stable Product Explained

By Jacque C. Morrell and Gustav Egloff
Research Laboratories, Universal Oil Products Co.

GASOLINE FROM SHALE OIL

The accompanying article is an abstract of a paper presented before the petroleum division of the American Chemical Society at its semiannual meeting last week in Tulsa. In their paper, which was entitled "Anti-Knock Motor Fuels Derived From Cracking Shale Oils," the writers first described the known oil shale resources of the world.

The recent report of the American Petroleum Institute placed the shale resources of the United States alone at 394,343,819,000 tons with a possible yield of 108,424,801,000 bbls. of oil. Based on this estimate the writers estimate that by cracking this oil the production of motor fuel would be sufficient to supply gasoline requirements for 150 years based on the present rate of consumption.

The types of shale oil cracked, on which this report is based, were American, Australian and French. The American shale oil was derived from the retorting of a Green River oil shale. The Australian shale oil charging stock was obtained by the retorting of the New South Wales type of shale. The French shale oil was derived from the shales of the Autun Basin.

The apparatus used for making these tests was a heavy 8-inch welded steel still with appropriate vapor line; condenser and receiver, all constructed to be operated under pressure. Pressure measurements were determind by gauges upon the still and receiver. A calibrated gauge glass upon the receiver allowed proper control of the rate of distillation. The vapor temperatures in the still and vapor lines, as well as the liquid temperature in the still, were determined by the use of thermometers. Furnace temperature measurements were made by the use of a pyrometer and a Leeds-Northup potentiometer. A charge of 8,000 cubic centimeters was used for each of the runs.

The United States, Australian and French shale oils were subjected to pressure distillation under operating pressure of 120 and 150 pounds pressure, and liquid temperatures ranging from 398 degrees Centigrade and 433 degrees Centigrade. The gasoline produced from the crude shale oils showed over 50 per cent Navy end point gasoline.

These high yields of gasoline can be produced commercially and the product pass all motor fuel specifications.

The analyses of the charging stocks and the yields of the various products are tabulated in Table 1 as follows:

TABLE NO. 1

	United States (Green River Shale)	Australia (New So. Wales)	France (Autun)
Specific gravity	0.8905	0.8756	0.8956
Flash (Cleveland open cup)	113°C.		
Fire (Cleveland open cup)	129°C.		
Viscosity (Saybolt furol)	13 Sec. at 50°C.		
Distillation Analysis			
	°Centigrade		
I. B. P.	221	82	121
10 per cent	260	159	196
20 per cent	296	201	224
30 per cent	324	244	255
40 per cent	346	281	290
50 per cent	373	318	321
60 per cent	393	354	354
70 per cent	399	382	382
80 per cent	405	396	410
90 per cent	405	413	421
E. B. P.	407	437	430
Per cent coke by weight	4.5	1.5	1.7
Operating Data and Summary			
Pressure (pounds)	120	150	120
Liquid temperature, °C., average	417	433	426
Vapor temperature	399	398	409
Pressure distillate, per cent yield	82.0	55.6	61.0
Specific gravity	0.7985	0.7591	0.7844
Residuum—per cent yield	None	35.4	27.7
Specific gravity		0.9786	1.030
Water— per cent wt. charging stock	0.6	Trace	0.5
Coke—per cent wt. charging stock	17.83	4.53	5.9
Uncondensible gas—per cent wt. charging stock	6.9	3.2	4.9
Gasoline (N. E. P.) per cent yield	52.8	50.1	51.0
Specific gravity	0.7499	0.7591	0.7762
Gas oil P. D. bottoms—per cent yield	24.6	3.4	7.6
Specific gravity	0.8849	0.8740	0.8778

Chemical Analysis

The gasoline produced from the cracking of shale oils is of high anti-knock value. This is indicated by the high aromatic hydrocarbon equivalent which is determined from the chemical analysis of the gasoline. The method of analysis used here is soon to be published by the writers. In evaluating the aromatic hydrocarbon equivalent which is related to the anti-knock properties in an automotive engine, Ricardo's data for toluene is used. (Ricardo, Institute of Technology Report of Empire Motor Fuels Committee, pages 84, 85 and 145). Five per cent of unsaturated hydrocarbons is equivalent to 1 per cent of toluene when both are dissolved in paraffin hydrocarbons. Similarly, 4 per cent of naphthene is equivalent to 1 per cent of toluene. It is to be understood that the accuracy of this relationship is limited insofar as Ricardo did not work with pure hydrocarbons. The aromatic hydrocarbon value is taken by direct determination.

In general, the unsaturated hydrocarbons are determined by treatment of the oil with 80 per cent sulphuric acid and redistillation of the cut taken for analysis after such treatment, to the temperature at which the original cut was made. The solution losses and distillation residue are respectively the unsaturated hydrocarbons removed by the acid, and those formed by polymerization acid treatment. The latter remains in the flask after the second distillation. The sum of the two gives the total unsaturated hydrocarbons present.

The aromatic hydrocarbons are determined by nitration with a special nitrating mixture composed of 58 per cent sulphuric acid, 25 per cent nitric acid and 17 per cent water by weight. The naphthene hydrocarbons are determined by the lowering of the cloud point of aniline dissolved in the hydrocarbon mixture, after the removal of the aromatic hydrocarbons. The paraffin hydrocarbons are determined by difference. The details of these analytical methods are given in the paper referred to. The limitations of the methods are also discussed.

The method of analyses herein shown checks quite closely with the results obtained by motor test on synthetic mixtures of straight run gasoline and commercial benzol. For example, a straight-run gasoline from Cushing crude oil having an aromatic hydrocarbon equivalent of 11 per cent in admixture with 22.5 per cent of commercial benzol (total aromatic hydrocarbons equivalent 30.4) is the motor equivalent of the cracked gasoline from the Green River shale oil.

The chemical analyses of the cracked gasoline with the corresponding Ricardo compression ratio is shown in Table 2.

TABLE NO. 2

Analyses of Cracked Gasolines With Interpretation in Terms of Anti-Knock Properties

Shale Oil From—	Hydrocarbons				Aromatic Hydrocarbon Equivalent	Ricardo Compress'n Ratio
	Unsaturated	Aromatic	Naphthene	Paraffin		
U. S. Shale (Green River)	20.1%	24.9%	6.2%	48.8%	30.4%	5.78%
Australian Shale (New So. Wales)	15.7	26.0	6.0	52.3	30.6	5.8
French Shale (Autun)	16.1	28.8	6.1	49.0	33.5	5.88

Treatment of Cracked Distillates

The cracked distillates from shale oils may be treated by several methods. A suitable method which can be readily applied commercially is as follows: The cracked distillate is water-washed and treated with plumbite solution. A short water-wash follows the drawing of the plumbite sludge. The distillate is allowed to settle and then given a preliminary treat with about 1 pound of sulphuric acid per barrel of distillate. The main acid treat (6 to 7 pounds of sulphuric acid per barrel of distillate) is applied after drawing the sludge from the preliminary treat. After drawing the sludge from the main acid treat, the cracked distillate is water washed, the water drawn and the oil then treated with sodium hydroxide or plumbite solution. The oil is finally distillated in the presence of steam. A light sodium hydroxide wash is applied to the gasoline distillate. If the latter is unstable, i.e., has a tendency to go off color, it is treated with a small per cent of fuller's earth. A combination treatment of dilute sulphuric acid followed by treatment with the regular concentration of 1.84 specific gravity sulphuric acid, at the acid stage of treatment, gives good results.

A water white stable gasoline of sweet odor, meeting all commercial specifications, results from the above treatment.

PORTABLE PIPE STRAIGHTENING MACHINE

A portable hydraulic pipe straightening machine weighing only 1,200 pounds and entirely self contained, especially designed for use in the field, on the lease, on pipe line work, in the refinery, the warehouse yard and the field machine shop, is the latest contribution of the W-K-M company, Inc., Houston, to the list of oil field tools. Experienced oil men are quoted as saying the new device will play an important role in pipe reclamation work, as well as in pipe reconditioning work in the field because the machine may be skidded to the pipe to be straightened, either with a team or a light tractor, or may be hauled to the

pipe on a wagon or truck. Four men easily load it on a truck.

The new straightener is entirely hand operated. A small plunger pump attached to the frame drives oil into the main cylinder through specially designed, high pressure valves. With each stroke of the pump handle, the main piston and straightening jaws are lowered five-sixteenths of an inch. When the pipe has been straightened, a quick-acting globe valve releases the fluid, which is returned automatically to a 10-gallon chamber surrounding the cylinder. A heavy coil spring, placed under the piston, swiftly returns the straightening jaws to starting position. In ordinary work, the piston is raised only enough each time to allow the next bend to be placed under the jaws.

A 150-pound man, working the plunger pump, is able to exert a straightening pressure of 30,000 pounds with this machine. The entire machine is described as exceedingly simple with nothing to get out of order, and nothing to wear out. Many oil field machine shops are now offering a field straightening service which saves the operator all hauling expense, except in bringing the straightener to the lease. A special bulletin is shortly to be mailed to the oil field trade.

ROCKY MOUNTAINS

(Continued from Page 65)

Mexico Wyoming Oil Co. on the Little Grass Creek Dome, Hot Springs County, started making some oil the past week, but water appeared soon after the oil showed. It is thought that the well has this showing of oil from a stray sand below the casing and which has been held back by the gas pressure of the regular sand that is producing the gas. This well is 2,687 feet deep and with another well on this structure, has been shut in for four years. Little Grass Creek Dome is a small structure on the west side of the Grass Creek Field, in the Big Horn Basin.

The Standard Oil Co. of Indiana sent out of Casper during the month of March 10 trains of gasoline and oil products for export to Europe by way of the Gulf.

The Carter Oil Co. will start operations again in the Billy Creek Field north of Salt Creek, in Johnson County, Wyoming, this spring. This field has already been proven as a gas field and some of the wells showed some oil.

Runs From the Fields

Salt Creek	52,960
Teapot	1,400
Big Muddy	3,460
Grass Creek	2,780
Elk Basin	620
Greybull	15
Rock River	3,060
Lance Creek	2,130
LaBarge	200
Poison Spider	350
Osage	350
Hamilton Dome	1,290
Lauder	270
Byron	30
Lost Soldier	4,380
Ferris	40
Simpson Ridge	230
Florence	400
Moffat	3,085
Tow Creek	110
Fort Collins	2,725
Iles Dome	95
Rangeley	100
Boulder	25
Cat Creek	2,830
Sunburst	19,800
Lake Basin	170
Hogback	490
Rattlesnake	195
Artesia	3,000
Total	106,690

CALIFORNIA LOSS 7,700,000 BARRELS FROM FIRES

(Continued from Page 46)

tank, 20 high-powered wind machines were kept working in an effort to blow the flames back from the nearest of the two blazing underground reservoirs. Earth barriers also were erected but proved as futile as the wind machines, the flames leaping across a space of 100 yards to ignite the tank after burning up several of the protecting machines.

With the arrival of more than 1,000 additional men to aid in fighting the blaze, the force employed exceeded 3,000 men.

Shortly before 8 o'clock, one of the two underground tanks boiled over. The stream of blazing oil was added to when the surface tank and the second underground reservoir began boiling over intermittently.

The oil properties of the Union Oil Co. are insured under a reporting cover to the amount of $6,860,000, covering oil in both tank farms and the latest report to the companies carrying the risk showed oil to the aggregate value of $7,500,000 in storage at the two locations.

Had 12,684,000 Barrels

Union Oil Co. had a total of 12,684,000 bbls. of crude and other oils stored at its San Luis Obispo and La Brea tank farms. At San Luis Obispo farm 6,463,000 bbls. were stored. There were six concrete reservoirs containing 5,463,000 bbls. or practically their capacity. It was made up of 3,120,000 bbls. of refining crude of 23 gravity; 1,185,000 bbls. liquid asphalt and 1,073,000 bbls. of fuel oil; also 19 steel tanks containing about 1,000,000 bbls. of "tops," a semi-finished oil of about 60 gravity which needs further refining to be commercial gasoline.

At the La Brea farm, 6,221,000 bbls. were stored. Six concrete reservoirs contained 4,320,000 bbls. of 25 gravity crude oil and 1,285,000 bbls. of fuel oil. This farm also had 16 steel tanks holding 530,000 bbls. of crude and 86,000 bbls. of fuel oil.

The total storage at the two farms was close to 50 per cent of the 26,872,000 bbls. of all kinds of oil, crude, semi-finished and finished, which Union Oil Co. reported as having in storage at the close of 1925. The company carried these inventories at an average of $1.10 a barrel for all kinds of oil, including transportation to refineries and marketing stations, at the end of 1925, which was considerably below market prices.

San Luis Obispo farm is the main converging point for the Union Oil Co. of California pipe line system running out of the San Joaquin Valley pools. Here was concentrated the crude oil brought in through the Producers Transportation Co., a Union Oil Co. pipe line subsidiary which gathers oil from the independent producers. It is situated 9 miles inland from the coast and on higher ground so that oil is run from there by gravity to the company's 10,000-bbl. skimming plant at Avillo as well as to load tank setamers to take crude oil to the Union Oil Co.'s big refinery at Oleum, on San Francisco Bay.

An idea of the size of these concrete reservoirs may be gleaned from the fact that the largest of them is 601 feet in diameter, and more than 20 feet deep. All the reservoirs are circular. The steel tanks were 55,000-bbl. capacity.

The six concrete reservoirs aggregating 5,500,000 bbls. capacity, cost approximately $2,750,000 to build or about 50 cents a barrel capacity. These containers are not a total loss, although the contents may be destroyed, and can be used again after necessary repairs and cleaning. The Shell Co. of California recently had a 750,000-bbl. concrete reservoir go on fire at Coalinga and when the fire burned out the reservoir was repaired and cleaned and again put in use.

Disasters on Mississippi

NEW ORLEANS, La., Apr. 10.—Twenty-nine persons were injured, 23 rescued from the Mississippi River and four unaccounted for as a result of an explosion of several gasoline tanks aboard the Standard Oil Co. tanker O. T. Waring. No persons were definitely known to have been killed.

At a point 20 miles below New Orleans the Dutch steamer Silvanus collided with the Standard Oil tanker Thomas W. Wheeler. Thirty-five men of a crew of 50 of the Dutch boat were said to be missing. The Dutch vessel's cargo was believed to have exploded following the impact. The master and pilot of the Silvanus were rescued from the river after the collision by members of the crew of the American steamship Topa Topa. With the exception of the master, pilot and second and fourth engineers, all of the crew of the Silvanus taken from the Mississippi River were Chinese sailors. Several of those injured were taken to New Orleans to obtain medical attention.

For several miles the river was literally ablaze with benzine, which covered the water immediately after the vessels struck each other. The Silvanus was moving south and the Thomas W. Wheeler north.

Explosion at Port Arthur

PORT ARTHUR, Tex., Apr. 11.—Trapped in their berths, 24 seamen were burned to death in an explosion of gasoline on the tanker Gulf of Venezuela in the harbor here. Eleven others were injured, eight seriously. Two others are missing.

The men met their fate in a caldron of boiling gasoline. The tanker was alongside the dock where 50,000 bbls. of high test gasoline had been pumped into her as she prepared to carry the fuel to Atlantic ports.

The explosion was in the men's quarters. G. N. Bliss, superintendent of marine transportation of the Gulf company, said it was evident leaking gas had penetrated into the crew's quarters but he could not determine the exact cause until he had talked to the chief engineer, Conrad Jackstead, and Mate Frank Woods, both of whom are too seriously burned to be interviewed.

HOLD INTERESTING TECHNICAL SESSIONS

(Continued from Page 46)

automotive equivalent. The same experts reported the yields of gasoline obtained by cracking shale oil and heavy crudes.

Interesting work on the aromatic hydrocarbons from natural gas was described by A. M. Erskine.

Studies on Color

Studies on color of gasoline were reported by R. H. Baxter also Vilbrandt and Withrow.

C. C. Wagner, in his paper on the hydrogenation of cracked gasoline said:

"The idea extant that increased hydrogen content of gasoline will minimize the "piston ping" or fuel knock is quite well advanced. Further, the relation of unsaturation to gasolines going off color with age may find some remedy in the hydrogenized product."

Methods for preparing pure hydrocarbons from petroleum were explained by Brown and Carr.

Commercial straightrun gasoline from the Cabin Creek Field was systematically fractionated and five fractionations were sufficient to separate cyclo-pentane, cyclohexane, benzene, and toluene from the pentanes and hexanes and gave 200 cc. of isopentane (30.5 ° to 30.6° C) and 250 cc. of normal pentane (36.2° to 36.3° C). Seven fractionations gave 300 cc. of isohexane (61.1° to 61.2° C) and 1000 cc. of normal hexane (68.9° to 69.0° C). Nine fractionations separated 2000 cc. of normal heptane (98.6° C to 98.7° C). Ten fractionations gave 2500 cc. of isooctane (117.9° to 118.1° C), 1100 cc. of normal octane (124.3° to 124.5° C) and 600 cc. of normal nonane (150.2° to 150.9° C).

The new methods for treating were mentioned in the papers by Mandelbaum and Nisson, who described vapor phase treatment; and Wood, Greene and Provine reported on the desulphurizing effects of sodium hypochlorite. The Sharples process for the dewaxing of long residuums was described by Max B. Miller.

The coal tar industry has in the past been a most fertile field for investigation. Perfumes, drugs, dyes, a host of chemicals and numerous products of great value have been discovered as a result of research work in coal tar. Today petroleum offers a great opportunity. As these papers indicate, much thought is being devoted to improved methods of manufacture. Treating is being studied, new processes for making lubricating oil are in sight, the vast stores of coal and shale are looked to as sources for motor fuel when the day shall come for petroleum and natural gas to be the raw materials for alcohols, numerous solvents, dyes and chemicals.

GOOD-BYE, BILL

The Gas Engineering and Construction Co. of Tulsa, Mid-Continent representatives of the Clark Bros. Co., has purchased an airplane for use in connection with its service department. The

photo shows C. P. Clark of Olean, N. Y., vice president and general manager of Clark Bros. Co., and William G. (Bill) Cummings, president of the Gas Engineering and Construction Co., taking off at the McIntyre Airport, Tulsa, for an inspection tour of Gulf Coast Fields. The plane will be used by the Gas Engineering and Construction Co., not only as a service plane for emergency calls from the field, but also will serve as a personal plane for Bill Cummings on his various trips to the field. Mr. Cummings states that his plane is enabling him to render a speedier service that is much appreciated by his customers.

CALIFORNIA MARKET SITUATION IS MIXED

LOS ANGELES, Calif., Apr. 10.—The local consumption of gasoline fell off somewhat during the week due to inclement weather. Shipments to the east, however, increased greatly during March and official figures are expected to show that approximately 700,000 bbls. of gasoline were absorbed in this trade. The spread on export gasoline has accordingly narrowed somewhat, this gasoline being quoted at from 11 cents to 11¼ cents at present. Marketers expect shipments east to continue in good volume during the coming months as the larger companies hold contracts that have not yet expired.

Now that the winter is practically over, there is a lessened demand for fuel oil. The market at present, in spite of the low prices, is weak. Along with the weakened fuel oil market the prices of low gravity distillates have gone down slightly. The enormous stocks of low gravity oils on hand is in a great measure responsible.

The Chinese boycott on British petroleum products has greatly stimulated the kerosene trade in California. This increased demand has been the chief cause for the recent kerosene price advances. While the larger companies continue to hold up kerosene prices, the intense competition for this business among the small local refiners has resulted in a general pushing downward of prices. These smaller refiners are at present selling domestic kerosene at around 7½ cents f.o.b. cars at the refinery. Export kerosene from the same sources can be obtained at 6 cents and in some cases a fraction of a cent under. The volume of kerosene moving to the Far East continues large with indications that it will at least hold its own and if anything improve slightly during the coming months.

At present there is practically no engine distillate market in California. What little demand there is, the smaller refiners take care of to a large extent. The price from local refineries near Los Angeles is around 10 cents without tax. The better grades sell at a fraction of a cent higher.

The lubricating oil market continues in an upset condition. Prices are still unsteady and are expected to remain so until the heavy summer demand begins to make itself felt.

REFINING AND MARKETING

CRACKING HEARINGS POSTPONED UNTIL MAY

CHICAGO, Apr. 10.—In the case of the Government against several owners and licensees of cracking processes, the case being commonly known as the "Cracking Club Suit," which has been on hearing before a special master for several months in New York City, the Government sought to introduce testimony regarding alleged fraudulent methods by which some of the patents were obtained. The right to introduce testimony of this nature was denied by the master who ruled that it was not included in the original bill. Representatives of the attorney general from Washington appeared before Judges Evans, Anderson and Page of the United States District Court sitting en banc, and sought to a file a supplementary bill. The amendment was not filed as the attorneys for the Government were not ready to argue the merits of the case and the defendants had no copy of the proposed amendment.

The court deferred action until the first Monday in May, the defendants to be served with a copy of the amendment by April 12. On May 3 it is expected the amendment will be fully argued. The amended bill adds to the list of defendants the Richard Fleming Co. and the M. W. Kellogg Co., as selling or licensing agents of the Gasoline Products Co. which controls the Cross patents. Beyond stating that a vigorous defense would be made to any charges of fraud in obtaining any patents, counsel for the defense had nothing to say. Representatives of the States Attorney's offices said the Government contended it had the right to show how some of the patents were obtained.

THE TEXAS COMPANY TO SELL ANTI-KNOCK

CHICAGO, Apr. 12.—The Texas Company has notified its local dealers that it will in the near future start the distribution of a high gravity antiknock gasoline. Dealers are asked to reduce their storage to the lowest point possible as the company does not want to mix the new gasoline with the old material.

The new gasoline will be around 63 degrees Baume in gravity with an end point of under 437. The motor fuel will be antiknock. The action of The Texas Company follows that of many other local distributors who have started the sale of antiknock motor fuels. The Standard Oil Co. product known as "Solite" and which sells at a premium over Red Crown is said to be having a wide sale.

FIFTY MORE STATIONS

TOLEDO, Ohio, Apr. 12.—The Hickox Producing Co., of Toledo, maker of High Speed gasoline, has contracted for the construction of 50 gasoline stations between Detroit, Toledo and Cleveland. Some of the stations will be located at main points on the highways between the three cities, while all three cities will get their portion of the number alloted. This company is doubling its refining capacity in the Mid-Continent fields, as well as its distributing plant in the outskirts of Toledo.

CALIFORNIA TAX INCREASE

California will be given the opportunity of voting on an increase in its gasoline tax from 2 to 3 cents if present plans of the California State Automobile Association are carried out. The directors of the association have voted unanimously in favor of the increase. Increasing the gasoline tax, it is claimed, will provide $10,000,000 a year for carrying out the State's road improvement program.

INVOKE COASTWISE SHIPPING LAW AGAINST COAST-GULF OIL TRAFFIC

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Apr. 10.—Ship owners protest the ruling of Atty.-Gen. John G. Sargent, which favors the right of British ships reloading oil at New Orleans. The issue in this case as stated by the ship owners and adopted by Mr. Sargent, is the fact that the Anglo-Mexican Petroleum Co., Ltd., a British corporation, proposed to purchase California gasoline for shipment to any destination in England, but that before this gasoline may be used in England it must be mixed with Mid-Continent gasoline, which involves a stop at New Orleans to unload the California gasoline and mix it with the Mid-Continent product, whereupon the mixture will be reloaded and transported to England. The entire transaction is to be in British flag vessels, owned by the Anglo-Mexican Petroleum Co.

The protest against this ruling which favors the right of British ships to transport gasoline in the manner indicated, is by Edwin H. Duff, attorney for the American Steamship Owners Association, and is addressed to T. V. O'Connor, chairman of the Shipping Board. Mr. O'Connor has made these communications public.

In this opinion, which grew out of an application by the Anglo-American Petrolem Co., the Attorney-General overruled the decision of D. B. Carson, Commissioner of Navigation of the Department of Commerce, who held that such transportation would be a violation of Section 27 of the Merchant Marine Act of 1920. In his opinion the Attorney-General applied the rule of ultimate destination.

Mr. Duff expresses the view that the Attorney-General arrived at his conclusions without all the facts being before him and asks that the board, through its legal department, furnish him with these facts. Mr. Duff's letter reviews the facts and the law in this case in great detail. In part, he says:

"Among adverse decisions, we can find none that has such far-reaching effects as that of the Attorney-General in the Anglo-Mexican Petroleum Co. case. It is not only adverse to the national policy of coastwise protection but seems to violate, disregard and misinterpret the express language of Section 27 of the Merchant Marine Act of 1920, which section was designed to further protect the coastwise trade against encrocahments by foreign vessels.

"The revelant language of the statute is clear and needs no interpretation.

" 'No merchandise shall be transported by water between points in the United States in any other vessel than a vessel built in and documented under the laws of the United States.'

"Uninterrupted transportation between two points is an easily demonstrable fact. If merchandise is laden at San Francisco and discharged at New Orleans without the movement having in any wise been interrupted, transportation is established as between those points, and those points being within the United States and the vessel being a foreign vessel, a violation of Section 27 has occurred. * * *

"Congress has not sought to restrict commerce between the states, or between points in the United States, but the language and purpose of Section 27 and similar legislation regulates and restricts transportation, an incident of commerce, to American vessels. The nature of the commerce—foreign or domestic—is therefore unimportant. The transportation is that which is controlled. If the transportation comes within the class prohibited by Congress, forfeiture of the merchandise carried will and must result regardless of what the nature of the commerce may be.

"While 'commerce' and 'transportation' are often loosely used interchangeably, the terms are not coextensive, synonymous or productive of the same effect. 'Commerce' comprehends transportation as an incident thereof but 'transportation' in the vernacular means 'to carry,' 'to convey,' 'to carry from one place or station to another.' "

Mr. Duff says this decision upon coastwise shipping of the United States is so far reaching that the American Steamship Owners Association is concerned with it as is the Shipping Board itself, because of the large pecuniary interest in coastwise shipping, due to loans by the board for the construction of and unpaid deferred payments on tonnage being operated and it is hoped the Shipping Board may see its way clear to confer with the Department of Justice in regard to this important subject.

BOLENE NOT TO CHANGE HIGH GRAVITY POLICY

CHICAGO, Apr. 12.—V. E. Bolene, general manager of the Bolene Refining Co., Enid, Okla., has notified a committee of the National Petroleum Marketers Association that the company will not change its policies in regard to the sale of gasoline in Milwaukee, Wis.

This case attracted considerable attention at the spring meeting of the association held here last week. At that time Mr. Bolene appeared before the entire convention and defended the action of his company in selling a high gravity gasoline with a 437 end point at the same price as that charged by other distributors for ordinary domestic grades.

Other distributors selling a high gravity gasoline secure a premium over the U. S. Motor grade. After considerable discussion at the convention the matter was temporarily dropped. Since the close of the convention Mr. Bolene has notified a committee of the association that he will continue to sell the high gravity grade.

REFINERY SAFETY PLAN EXPLAINED BY EXPERT

HOUSTON, Tex., Apr. 10.—The methods by which large oil corporations select employes and build up organizations in the refinery departments is explained in The Texaco Star, house organ of The Texas Company. The article is written by A. A. Nichoson, employment supervisor at the Port Arthur refinery.

Applicants for positions are examined physically and mentally in order to determine what place they are best fitted to fill in the refinery's organization. Lessons in safety and the necessity for caution are impressed on the minds of the applicants. Mr. Nichoson writes in part as follows:

"Building men is one of the most difficult, most complex and yet most necessary jobs that confront present day industry. Hiring men or assigning men to any particular job is a relatively easy matter, but to take men who seek admission and enter the gates of industry and to remold them into workers fitted mentally and physically to tackle and successfully wrestle with the perplexing problems of industry is quite another matter. To put this over requires a gigantic program which involves enormous expense, much time, and an unlimited amount of patience. Industry, however, realizing that the best men were none too good, has launched a program worked out in detail after careful analysis in which monetary costs of installation and operation are lost in comparison with the finished product of a well rounded worker who will be able to withstand the trying test of tomorrow."

The plant physician is termed by Mr. Nichoson as the most important in the program of building better business through better men. He waves the wand which permits the applicant to enter the land of better health and greater fitness.

At Port Arthur, says Mr. Nichoson, "the employment supervisor is the first of the company representatives to meet the new employe. In fact, he selects the applicant who is chosen to fill any vacancy that may be existing in the organization. After making the selection, the applicant is taken to the employment department where he is given a personal interview and where the necessary paper work is completed.

"The applicant is taught his first lesson in safety as he enters the plant for the first time, having his attention called to the warning concerning the carrying of red headed matches into the plant, being requested to deposit any that he might have. Employes are taught not to use strike-anywhere matches either in the plant or at home.

"The personal interview that is accorded each applicant is not only for the purpose of fixing definite assignment relative to vocational fitness, but to establish a friendly contact at the out-

(Continued on Page 160)

BUNKER DELIVERIES FOR FOREIGN TRADE

A total of 3,231,616 bbls. of bunker oil was delivered to vessels engaged in foreign trade according to data collected by the Minerals Section of the Bureau of Foreign and Domestic Commerce. The value of the oil was placed at $4,904,974.

The following February report is the first to be announced by the Government bureau which will hereafter compile the data monthly:

	Quantity Barrels	Value
Maine and New Hampshire	81	$ 582
Massachusetts	28,142	51,503
New York	1,416,777	2,479,360
Philadelphia	119,168	192,133
Maryland	62,740	110,814
Virginia	12,467	20,887
Georgia	2,890	4,932
Florida	24,761	34,731
Mobile	17,167	27,563
New Orleans	360,539	549,547
Sabine	66,228	94,279
Galveston	154,437	151,951
Los Angeles	424,286	476,148
San Francisco	344,877	380,244
Oregon	1,100	1,320
Washington	106,898	123,561
Hawaii	81,216	161,009
Porto Rico	7,842	14,411
Total	3,231,616	$4,904,974

OKLAHOMA OIL TAXES

OKLAHOMA CITY, Okla., Apr. 12.—Collections of gross production tax on oil and gas and of taxes on gasoline and tank cars made by the State Auditor during the first three months of 1926 exceed by over a $1,250,000 the collections during the first quarter of 1925. Gross production tax collections amounted to $2,571,217, compared with $1,786,795 last year; gasoline tax $1,351,653, compared with $957,612 last year, and tank car tax $7,674, compared with $4,427 last year.

TEXACO STATIONS IN WICHITA

The Texas Company has started the retail distribution of gasoline in Wichita, Kans., through the purchase of one station. The company has also announced that it will shortly start the erection of several stations in different parts of the city. The company has maintained a bulk station at Wichita for the past two years.

JENKINS CRACKING PROCESS

PRODUCES QUALITY GASOLINE

Facts from performance

FINISHED GASOLINE

A cracking process which relies on the balance of the refinery to finish its product places an unnecessary burden on that refinery.

The Jenkins Cracking Process produces High Quality gasoline — finished except for the doctor treatment.

GRAVER *Founded 1857* *Corporation*

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Brief Items for Plant Operators

INSTALL CROSS UNIT AT WILMINGTON PLANT

Construction has just started on the Cross cracking units to be erected by the Union Oil Co. at its Wilmington refinery near Los Angeles Harbor. The five new units which are to be put up together with the necessary equipment which ranges from pump houses to 26 new steel tanks, will cost around $1,500,000.

Operation of the first unit is scheduled to start during the latter part of June while the remainder will get under way before the summer draws to a close. About 400 men are being employed in construction work and these together with the regular force of 600 men brings the pay roll list up to 1,000.

The Union experimented for nearly a year with a 1,000-bbl. Cross unit before finally deciding to install this process. These new units will be similar in design to those recently installed by the Richfield Oil Co. at its Rioco refinery near Long Beach.

QUESTIONS AND ANSWERS

The question and answer feature of The Oil and Gas Journal will start in the April 22 issue. This department is under the direction of C. K. Francis, recently appointed technical editor.

Those connected with the technical phases of refinery and natural gasoline plant operation are urged to submit their questions at once in order to be assured of a prompt reply. The questions will be answered in the order in which they are received.

PLAN CARBON PLANT IN TEXAS PANHANDLE

WICHITA FALLS, Tex., Apr. 10.—The Western Carbon Co., a branch of the Columbia Carbon Co., has begun erection of a carbon black plant on the Burk Burnett ranch in Carson County, Texas, and contracted with the Phillips Petroleum Co. for the purchase of its natural gas in that area. The Western company is said to contemplate spending $1,000,000 on this plant. First units are expected to be in operation by June 15. At the outset residue gas from the casinghead plant of the Phillips Petroleum Co. will be run. The Phillips company has its plant under construction.

The extent of gas territory in the Panhandle and possibilities for development are said to have influenced the oil and gas conservation bureau of Texas to grant the Western Carbon Co. a permit to operate in the Panhandle.

NEW UNITS AT BOSSIER PLANT

The construction of two additional units of the tube and tank process is now under way at the Bossier, La., refinery of the Louisiana Oil Corp. The units will be placed in operation some time during the next month. With the new units the company will have seven in operation. The first two units were built two years ago.

PAPER ON PARAFFIN WAX

The Department of Commerce announces that Technical Pape 368 is ready for distribution. The paper, of which L. D. Wyant and L. G. Marsh are the authors, is entitled, "Paraffin Wax and Its Properties; Methods of Testing Wax and of Analyzing Oil-Wax Mixtures."

MANY PHASES TO MODERN METHODS OF MANUFACTURING PETROLEUM COKE

By Arthur J. Smith and Harold VanDeman
Paragon Refining Co.

Petroleum coke is the residual carbon produced when petroleum hydrocarbons are subjected to pyrogenic decomposition, whether intentionally or merely incidental to some other operation. Coke as produced commercially from petroleum today, is a by-product of one of two separate refinery operations. It may be made by subjecting crude or other oil to destructive distillation to dryness or it may be formed when crude oil, gas oil or fuel oil is cracked to yield gasoline.

In general it may be said that comparatively less coke can be secured from paraffin base crude than from asphalt or naphthene base crudes on distillation to dryness. In practice, it may be noted, paraffin base crude is seldom coked, on account of the valuable lubricants which may be made from the still residue of this crude. In cracking processes the amount of coke formed is determined by the method of operation as well as by the character of the oil being cracked. Some cracking processes strive to produce a minimum amount of coke, while others attempt to convert all their residual products to coke.

In ordinary practice of dry distillation by fire, coke is produced in three ways: First, direct from crude by distilling off gasoline, benzine, kerosene distillate, gas oil, wax distillate and tailings, leaving coke as a residue; second, by distilling gas oil, wax distillate and tailings from petroleum tar; or thirdly, from paraffin slops, taking off gas oil and "cracked" wax distillate. Of these the most important is the first which is usually carried out in "tower" stills, as will be described later.

*"Coking plants, to run at a profit, should have a low freight rate on steel plate, and be shipped with heavy bending rolls or be in close proximity to mills or shops which possess them. In short, refineries in which coking is part of the regular routine, generally operate on Lima, Illinois, Kansas or Mexican crude, and are located close to great industrial centers or export points. They carry a heavy investment, not only in equipment but also in boilers and repair shops."

While a soft coke may be obtained from a run with steam, dry coke is only obtainable from crude run with a minimum of steam or from dry-run tar. In plants where coking is practical, tar stills have in the main been superseded by "tower" stills in which the crude is run direct to coke. However, in some plants tar stills are still in use and a description of the present-day process may not be out of place.

*"Handbook of the Petroleum Industry," David T. Day.

Use of Tar Stills

Where tar stills are employed, crude is distilled without steam in the usual type of crude still, and is stripped of gasoline, kerosene and a part of its gas oil. The residuum or "tar," amounting to 20 to 30 per cent of the charge, and which is usually 20 to 24 A. P. I. gravity, is then transferred to a tar still. In some places it is allowed to settle for several days in an intermediate tank, and in rare instances is acid treated before being charged to the tar stills. These are generally of comparatively small capacity —250 to 500 barrels. Here the tar is rapidly distilled so that there is a constant drop in the gravity of the stream of distillate, the distillates often being condensed in separate coils, but without the degree of dephlegmation formerly practiced. The stillman watches the color of the stream and is largely governed by it in making cuts from paraffin distillate to slop (which must be rerun a second time before it is suitable for pressing).

Soon the gravity and volume of the

(Continued on Page 159)

AMONG THE TECHNICAL MEN

Herbert K. Cummings, since July, 1925, has chiefly been engaged on motor fuels in connection with engine tests of power, economy and anti-knock value at the Bureau of Standards, Department of Commerce, Washington, D. C. These tests he has made according to the Bureau of Standards Test Method No. 1, the result being a very great increase in knowledge on that subject. About 25 dopes and about 35 special motor fuels have been tested by Mr. Cummings, but the bureau's policy does not permit specific data on commercial subjects of this sort.

—Photo Harris & Ewing
H. K. Cummings

Back in 1911, Mr. Cummings taught fuel analysis, and he has followed with interest the methods which have been evolved for determining the chemical and physical properties of motor fuel, especially those employed in estimating the aromatic and naphthenic constituents in gasoline and in measuring the effective volatility of fuels. Recently he made a few measurements of the rate of evaporation of aviation gasoline from open vessels.

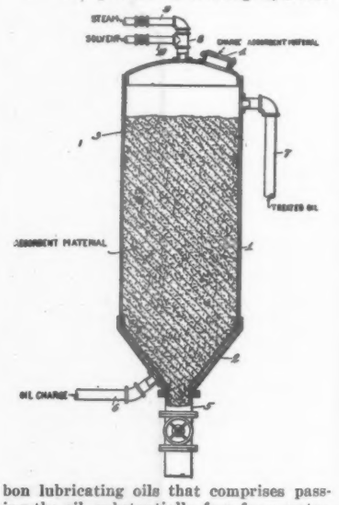
Mr. Cummings was born and brought up in New England, graduated from the Worcester Polytechnic Institute in chemical engineering. He received M. S. in physics from the University of Chicago in 1915, five years after graduating from the former institute. At the Clark University he did several years graduate work in mathematical physics and physical chemistry. He taught physics and analytical chemistry at Alfred University, where he was research assistant to the director, then at the New York State School of Ceramics for one year. He taught physics at Worcester Polytechnic Institute, four years, and mathematics at Brown University one year. He spent four years in the Ordnance Department, United States Army, as a lieutenant, engaged mainly in development work reammunition loading. In July, 1922, he came to the Bureau of Standards as associate physicist and he has since that date worked on such automotive problems as carburetion, motor fuels and engine cooling.

As an engineering student Mr. Cummings became a member of Tau Beta Pi and of Sigma Xi. He is also a member of the American Physical Society, American Mathematical Society, American Association for the Advancement of Science, Army Ordnance Association, Army and Navy Club of America.

Recent Patents

1,570,890. Treating Hydrocarbon Oils. Frank W. Hall, Port Arthur, Tex., assignor to The Texas Company, New York, N. Y., a Corporation of Texas. Filed September 20, 1921. Serial No. 501,986. 5 Claims. (Cl. 196—147.)

1. The process of treating hydrocar-



bon lubricating oils that comprises passing the oil, substantially free from water, upwardly through a mass of adsorbent clay.

1,572,465. Process for Manufacturing Lubricating Oils. John C. Black, Destrehan, La., and James W. Weir, Fillmore, Calif. Filed October 19, 1922. Serial No. 595,660. Ten claims. (Cl. 196—147.)

1. A method of refining hydrocarbons consisting in treating the hydrocarbons with sulphuric acid; withdrawing the precipitated acid reactions products, adding to the treated hydrocarbons a neutralizing and decolorizing reagent in sufficient quantities to decolorize the hydrocarbons and heating the mixture, then separating the hydrocarbons and admixed reagent.

(Additional Patents on Page 166)

All Parts of

HUGHES

CHROME NICKEL

STEEL VALVES

—are accessible

TRADE MARK

HUGHES TOOL COMPANY

Branch Plants
Los Angeles, Calif.
Oklahoma City, Okla.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

Export Office
New York City, N.Y.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Apr. 13		Apr. 6		Mar. 30	
OKLAHOMA (Group 3)—						
50-52 450 end point	.09	.09¼	.09⅛	.09¼	.09¼	.09⅜
56-58 450 end point	.09⅝	.09¾	.09⅝	.09¾	.09¾	.09⅞
58-60 437 end point (U. S. Motor)	.10	.10¼	.10	.10¼	.10¼	
60-62 400 end point	.11	.11¼	.11⅛	.11¼	.11¼	.11½
64-66 375 end point	.12	.12¼	.12	.12¼	.12¼	.12½
68-70 360 end point	.12¾	.12⅞	.12¾	.12⅞	.12⅞	.13
KANSAS—						
58-60 437 end point (U. S. Motor)	.10¼	.10½	.10¼	.10½	.10½	.10¾
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.08⅞	.09	.09		.09	.09¼
50-52 450 end point (Naphtha)	.09		.09	.09⅛	.09⅛	.09⅜
56-58 450 end point	.09½	.09⅝	.09½	.09⅝	.09⅝	.09¾
58-60 437 end point (U. S. Motor)	.10		.10	.10⅛	.10¼	
60-62 400 end point	.11	.11¼	.11¼		.11⅜	.11⅝
64-66 390 end point	.11⅝	.11¾	.11⅝	.11¾	.12⅛	.12⅜
64-66 375 end point	.12	.12¼	.12	.12¼	.12½	
68-70 360 end point	.12¾	.12⅞	.12¾	.12⅞	.12¾	.13
NORTH LOUISIANA—						
56-58 450 end point	.09½	.09¾	.09⅝	.09¾	.09¾	.10
58-60 437 end point (U. S. Motor)	.10⅛	.10¼	.10⅛	.10¼	.10¼	.10½
60-62 400 end point	.11⅛	.11⅜	.11¼	.11½	.11½	.11⅞
64-66 390 end point	.12	.12¼	.12	.12¼	.12¼	.12½
64-66 375 end point	.12¼	.12½	.12¼	.12½	.12½	.13
ARKANSAS—						
58-60 450 end point	.09¾	.10	.09¾	.10	.10	.10¼
58-60 437 end point (U. S. Motor)	.10⅛	.10¼	.10⅛	.10¼	.10¼	.10½
54-66 375 end point	.12¼	.12½	.12¼	.12½	.12½	.12¾
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.12½	.12¾	.12½	.12¾	.13	.13¼
PENNSYLVANIA—						
52 Naphtha	.11	.11¼	.11	.11¼	.11¼	.11½
54 Naphtha	.11¼	.11½	.11¼	.11½	.11½	.11⅞
56 Naphtha	.11⅝	.12	.11⅝	.12	.12	.12¼
58 Naphtha	.12¼	.12½	.12¼	.12½	.12½	.12¾
60 Gasoline	.13	.13¼	.13	.13¼	.13⅜	.13½
62 Gasoline	.13½	.13¾	.13½	.13¾	.13¾	.14
64 Gasoline	.14	.14¼	.14	.14¼	.14¼	.14½
66 Gasoline	.16	.16¼	.16	.16¼	.16¼	.16½
68-70 Gasoline	.19	.19½	.19	.19½	.19½	.19¾
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.12½	.13	.12½	.13	.12½	.13
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.09	.09¼	.09	.09¼	.09	.09¼
56-58 450 end point	.09½	.09⅝	.09¼	.09⅝	.09⅝	
58-60 437 end point (U. S. Motor)	.10	.10¼	.10⅛	.10¼	.10¼	.10½
60-62 400 end point	.11⅛	.11¼	.11¼	.11½	.11¼	.11½
64-66 375 end point	.12	.12¼	.12⅛	.12¼	.12¼	.12½
68-70 360 end point	.12¾	.13	.12¾	.13	.13	.13¼

*Colorado points.

NATURAL GASOLINE

	Apr. 13		Apr. 6		Mar. 30	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08¾	.09	.09	.09¼	.09	
Grade A, 72-79.9, 375 e.p., rec. 90%	.09		.09	.09¼	.09	.09¼
Grade BB, 84-92, 375 e.p., rec. 85%	.07⅞	.08	.08⅛	.08¼	.08¼	
Grade B, 76-83-9, 375 e.p., rec. 85%	.07⅞	.08	.08⅛	.08¼	.08¼	
Grade C, 80-90, 375 e.p., rec. 78%	.07½	.07¾	.08		.08	.08¼
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08¾	.09	.09		.09	.09¼
Grade A, 72-79.9, 375 e.p., rec. 90%	.08¾	.09	.09	.09¼	.09	.09¼
Grade BB, 84-92, 375 e.p., rec. 85%	.07⅞	.08	.08¼		.08¼	.08⅜
Grade B, 76-83.9, 375 e.p., rec. 85%	.07⅞	.08	.08¼		.08¼	.08⅜
Grade C, 80-90, 375 e.p., rec. 78%	.07½	.07¾	.08		.08	.08¼
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.09⅛	.09¼	.09¼	.09½	.09½	.09¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.08½	.08¾	.09	.09¼	.09¼	.09½
Grade C, 80-90, 375 e.p., rec. 78%	.08	.08¼	.08¾	.09	.09	.09¼
CALIFORNIA—						
78-85 absorption, 360-390 end point	.17	.17½	.17	.17½	.17	.17½
78-84 compression, 350 end point	.17	.17½	.17	.17½	.17	.17½
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.09		.09		.09	.09¼
Grade A, 72-79.9, 375 e.p., rec. 90%	.09		.09	.09¼	.09	.09¼
Grade BB, 84-92, 375 e.p., rec. 85%	.08⅛	.08¼	.08¼		.08¼	.08½
Grade B, 76-83.9, 375 e.p., rec. 85%	.08⅛	.08¼	.08¼		.08¼	.08½
Grade C, 80-90, 375 e.p., rec. 78%	.07¾	.08	.08		.08	.08¼

MOTOR NATURAL GASOLINE (BLENDS)

	Apr. 13		Apr. 6		Mar. 30	
OKLAHOMA (Group 3)—						
60-62 450 end point	.09¼	.09½	.09¼	.09½	.09½	.09¾
64-66 437 end point	.09¼	.09½	.09¼	.09½	.09½	.09¾
68-70 430-435 end point	.09¾	.10	.09¾	.10	.10	.10¼
NORTH TEXAS—						
64-66 437 end point	.09⅝	.09¾	.09⅝	.09¾	.09¾	.10
PENNSYLVANIA—						
*60-62	.12¼	.12½	.12¼	.12½	.12½	.12¾
*64-66	.12½	.12¾	.12½	.12¾	.12¾	.13
*66-68	.12¾	.13	.12¾	.13	.13	
*68-70	.12¾	.13	.12¼	.13	.13	
CHICAGO DISTRICT (Based on Group 3)—						
60-62 450 end point	.09¼	.09½	.09¼	.09½	.09½	.09¾
64-66 437 end point	.09½	.09¾	.09½	.09¾	.09¾	.10

*At Sistersville, W. Va.

BURNING OIL

	Apr. 13		Apr. 6		Mar. 30	
KANSAS—						
41-43 water white Kerosene	.07¼	.07½	.07	.07¼	.07	.07¼
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.06¾	.06⅞	.06¾	.06⅞	.06⅝	.06¾
42-44 water white Kerosene	.07¼		.07⅛	.07¼	.07⅛	.07¼
NORTH LOUISIANA—						
41-43 prime white Kerosene	.07¼	.07½	.07	.07¼	.07	.07¼
ROCKY MOUNTAIN STATES—						
*40-41 water white Kerosene	.09¾	.09⅞	.09⅝	.09¾	.09⅝	.09¾
NORTH TEXAS—						
41-43 water white Kerosene	.07	.07⅛	.07	.07⅛	.07	
ARKANSAS—						
41-43 water white Kerosene	.07¼	.07½	.07¼	.07½	.07¼	.07½
PENNSYLVANIA—						
43 Kerosene prime white	.08¼	.08½	.08¼	.08½	.08	.08¼
45 Kerosene water white	.08¾	.09	.08¾	.09	.08⅝	.08⅞
46 Kerosene water white	.09½	.09⅝	.09½	.09⅝	.09¾	.09½
47 Kerosene water white	.10	.10¼	.10	.10¼	.09⅞	.10
34 Neutral	.08	.08¼	.08	.08¼	.07¾	.08
34 Sundebloom Neutral	.09	.09¼	.09	.09¼	.08¾	.09
36 Miners' Neutral	.07	.07¼	.07	.07¼	.07	.07¼
300 Mineral Seal	.07¾	.08	.07¾	.08	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.07½	.06½	.09	.10	.09	.10
Engine distillate, 43-45 445 end point	.10¼	.10½	.11	.11½	.11	.11½
Engine distillate, 42-44 450 end point	.10	.10¼	.10¾	.11	.10¾	.11
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.06¾	.06⅞	.06¾	.07	.06⅝	.06¾
42-44 water white Kerosene	.07	.07¼	.07⅛	.07¼	.07	.07⅛

*Colorado points.

FUEL OILS

	Apr. 13		Apr. 6		Mar. 30	
KANSAS—						
24-26 Fuel Oil	1.50	1.55	1.50	1.55	1.40	1.45
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04¼
38-40 Distillate	.04½	.04⅝	.04½	.04⅝	.04⅜	.04½
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	1.30	1.35	1.30	1.35	1.25	1.27½
22-26 Fuel Oil (sellers' cars)	1.35	1.37½	1.35	1.37½	1.27½	1.32½
24-26 Fuel Oil (sellers' cars)	1.40	1.45	1.40	1.45	1.35	
26-30 Fuel Oil (sellers' cars)	1.45	1.50	1.45	1.50	1.40	1.45
28-30 Fuel Oil (sellers' cars)	1.55	1.60	1.55	1.60	1.45	1.50
32-36 Gas Oil (dark)	.04¼	.04⅜	.04½	.04¼	.04	.04½
32-36 Gas Oil (light)	.04⅜	.04½	.04⅜	.04½	.04½	.04¼
36-38 Distillate	.04½		.04⅜	.04½	.04½	.04⅜
38-40 Straw Distillate	.04½	.04⅝	.04½	.04⅜	.04⅜	.04½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.55		1.55	1.60	1.45	1.50
32-36 Gas Oil (dark)	.04⅛	.04¼	.04⅛		.04	
32-36 Gas Oil (light)	.04¼	.04½	.04¼	.04⅜	.04	.04⅛
38-40 Straw Distillate	.04⅜	.04½	.04⅜	.04½	.04¼	.04⅜
NORTH LOUISIANA—						
18-20 Fuel Oil	1.20	1.25	1.20	1.25	1.15	1.20
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04⅛	.04¼
ARKANSAS—						
38-40 Distillate	.04½		.04½		.04½	
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04	.04¼
16-20 Refinery Fuel Oil	1.20	1.25	1.20	1.25	1.15	1.20
GULF COAST (South Texas)—						
Gas Oil	.05	.05¼	.05	.05¼	.05	.05¼
Fuel Oil	1.65	1.70	1.65	1.70	1.65	1.70
PENNSYLVANIA—						
30-34 Fuel Oil	.05¾	.06	.05¾	.06	.05¾	.06
36-40 Fuel Oil	.06	.06¼	.06	.06¼	.06	.06¼
CALIFORNIA—						
33-35 Distillate	.04⅞	.05	.05¼	.05½	.05¼	.05½
27-35 Distillate	.04	.04½	.04½	.05	.04½	.05
15-20 Fuel Oil (at tidewater)	1.00	1.04	1.00	1.04	1.00	1.04
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars, Group 3)	1.40	1.45	1.40	1.45	1.30	1.35
22-26 Fuel Oil (sellers' cars)	1.37½	1.40	1.37½	1.40	1.25	1.30
18-22 (El Dorado)	1.30	1.35	1.25	1.27½	1.20	1.25
18-20 (Smackover)	1.07	1.12½	1.07½	1.10	1.10	1.15
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04⅛	.04¼
36-38 Distillate	.04¼	.04½	.04⅜	.04½	.04½	.04¼
38-40 Straw Distillate	.04½	.04⅝	.04⅝	.04¾	.04½	.04⅝

LUBRICATING OILS AND WAX

	Apr. 13		Apr. 6		Mar. 30	
OKLAHOMA (Group 3)—						
70-80 vis., 2½ color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.06½	.07	.06½	.07	.06½	.07
100 vis., 2 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 4 color, 20-25 cold test	.09¼	.09¾	.09¼	.09¾	.09¼	.09¾
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 4 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 3 color, 23-28 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10¾
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.11¼	.11½	.11¼	.11½	.11	.11½
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16½
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16¾	.17
180 vis., 5 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
200 vis., 5 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
220 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 5 color, 25-30 cold test	.13	.14	.13	.14	.13	.14
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
Cylinder Stocks:						
180-200 vis., S. R. green, 40-45 cold test	.08½	.11	.08½	.11	.08½	.11
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08	.08½	.08	.08½
170-190 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @ 210 "D" Bright Stock	.33	.35	.33	.35	.33	.35
200-210 vis. @ 210 "F" Bright Stock	.30	.31	.30	.31	.30	.31
150 vis. @ 210 "E" Bright Stock	.27	.28	.27	.28	.27	.28
150 vis. @ 210 "D" Bright Stock	.28	.31	.28	.31	.28	.31
Waxes:						
122-124 White Crude Scale Wax	.04⅞	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
150, 3 color	.21½		.21½		.21½	
180, 3 color	.26		.26		.26	

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

200, 3 color	.27¾		.27¾		.27¾	
220, 3 color	.30		.30		.30	
600, steam refined	.15¾		.15¾		.15¾	
635, steam refined	.19½		.19½		.19½	
650, steam refined	.21		.21		.21	
600, Pennsylvania flash	.27		.27		.27	
630 Pennsylvania flash	.35		.35		.35	
*550, E filtered	.19½		.19½		.20¾	
600, E filtered	.20½		.20½		.20½	
*600, E filtered	.21½		.21½		.21½	
600, D filtered	.27½		.27½		.27½	
550, E filtered	.18½	.18¾	.18½	.18¾	.20	
550, D filtered	.22¼	.22½	.22¼	.22½	.22¼	
Pennsylvania Bright Stock	.37½		.37		.37	
122-124 White Crude Scale Wax	.05⅝	.05½	.05⅝	.05½	.05⅝	.05½
†124-126 White Crude Scale Wax	.05½	.05⅝	.05½	.05⅝	.05½	.05⅝

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—

Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 2½ color, 150 vis., pale oil	.10	.10½	.10	.10½	.10	.10½
No. 3 color, 200 vis., pale oil	.11	.11½	.11	.11½	.11	.11½
No. 3½ color, 300 vis., pale oil	.13	.13½	.13	.13½	.13	.13½
No. 3¾ color, 500 vis., pale oil	.15	.15½	.15	.15½	.15	.15½
No. 4 color, 750 vis., pale oil	.18½	.19	.18½	.19	.18½	.19
No. 1½ plus color, 150 vis., pale filtered	.22		.22		.22	
No. 2 plus color, 200 vis., pale filtered	.23½		.23½		.23½	
No. 2 color, 300 vis., pale filtered	.27½		.27½		.27½	
No. 2½ color, 5 00 vis., pale filtered	.31½		.31½		.31½	
No. 2½ color, 750 vis., pale filtered	.41½		.41½		.41½	
No. 5 to 6 color, 200 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 300 vis., red oil	.11½	.12	.11½	.12	.11½	.12
No. 5 to 6 color, 500 vis., red oil	.13	.13½	.13	.13½	.13	.13½
No. 5 to 6 color, 750 vis., red oil	.17	.18	.17	.18	.17	.18
CALIFORNIA—						
130 pale, 2½-3 color	.10	.11½	.10	.11½	.10	.11½
200 vis., 2½-3 color	.13½	.14½	.13½	.14½	.13½	.14½
300 vis., 3 -3½ color	.15	.16	.15	.16	.15	.16
350 vis., 3½-4 color	.16½	.17½	.16½	.17½	.16½	.17½
400 vis., 3½-4 color	.18	.19	.18	.19	.18	.19
Red Neutrals:						
200 vis., 4½-5 color	.12	.13	.12	.13	.12	.13
300 vis., 5 -6 color	.13	.14	.13	.14	.13	.14
400 vis., 5 -6 color	.15	.16	.15	.16	.15	.16
500 vis., 4½-5 color	.18	.19	.18	.19	.18	.19
500 vis., 6 -6½ color	.16	.17	.16	.17	.16	.17
600 vis., 6½ plus color	.17	.18	.17	.18	.17	.18

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	Apr. 13	Apr. 6	Mar. 30
U. S. Motor Gasoline, 58-60 437	.13½	.13	.13
*Bunker Oil, 14-16 Be.	1.75	1.75	1.75
*Diesel Oil, New York City	2.30	2.30	2.30
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 28 plus	.05¾	.06	.06
41-43 Kerosene prime white	.08½	.08½	.08½

*Lighterage 6.5c a barrel extra.

NEW YORK EXPORT PRICES

Motor Gasoline:	Apr. 13	Apr. 6	Mar. 30
58-60 Be. gravity, in cases	.28.40	.27.90	.27.90
Standard white Kerosene, in cases	.18.15	.18.15	.18.40
Water white Kerosene, in cases	.19.90	.19.65	.19.90
Export Gasoline, 64-66 Be.	.16	.16	.16
†Lubricating Oils (in bulk):			
Cylinder Stock, light filtered, 60 s.r.	.29	.29	.29
No. 5 Bright Stock, .897 spec. grav.	.40	.40	.40
No. 1 White Neutral, .878 spec. grav.	.35	.35	.35
Pale Oil, "25" .898 spec. grav.	.12	.12	.12
Pale Oil, "28" .892 spec. grav.	.07½	.07½	.07½
No. 3 red oil, 160 vis., 7 color	.10¾	.10¾	.10¾
No. 2 red oil, .903 spec. grav.	.11½	.11½	.11½
No. 1 red oil, .905 spec. grav., 265 vis.	.13	.13	.13
Polar red oil, .903 spec. grav., 295 vis.	.13½	.13½	.13½
Paraffin Wax:			
120-122 a.m.p., per lb.	.05⅞	.06⅛	.06⅛
125-127 a.m.p., per lb.	.06	.06¼	.06¼
130-132 a.m.p., per lb.	.06¼	.06½	.06½
135-137 a.m.p., per lb.	.06⅞	.07⅛	.07⅛
Petrolatum, in bbls., car load lots, per lb.:			
Amber	.03⅜	.03⅜	.03⅜
Light amber	.03⅝	.03⅞	.03⅞
Cream	.05¾	.06	.06
Lily white	.08	.08	.08
Snow white	.09½	.09½	.09½

†All lub prices in barrels.

LOS ANGELES EXPORT PRICES

	Apr. 13		Apr. 6		Mar. 30	
Kerosene water white	.05½	.06	.05	.05½	.05	.05½
U. S. Motor Gasoline, 54-56 437 e.p.	.11	.11¼	.10	.10½	.10	.11½

CRUDE OIL PRICES

OKLAHOMA, KANSAS AND NORTH TEXAS

***Prairie Oil & Gas Co.**

(Oklahoma, Kansas and North and East Central Texas.)

28° to 28.9°	$1.40
29° to 29.9°	1.48
30° to 30.9°	1.56
31° to 31.9°	1.64
32° to 32.9°	1.72
33° to 33.9°	1.80
34° to 34.9°	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° to 37.9°	2.12
38° to 38.9°	2.20
39° to 39.9°	2.28
40° to 40.9°	2.36
41° to 41.9°	2.44
42° to 42.9°	2.52
43° to 43.9°	2.60
44° to 44.9°	2.68
45° to 45.9°	2.76
46° to 46.9°	2.84
47° to 47.9°	2.92
48° to 48.9°	3.00
49° to 49.9°	3.08
50° to 50.9°	3.16
51° to 51.9°	3.24
52° and above	3.32

*Other major purchasers except as noted below.

Champlin Refining
(Garber and Tonkawa)

Schedule based on Prairie Oil & Gas Co. paying 10 cents additional for each grade of crude above 38° gravity.

Humble Oil & Refining Co.

(North and East Central Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Big Lake and Lytton (Springs)

Below 25°	$1.08
25° to 25.9°	1.16
26° to 26.9°	1.24
27° to 27.9°	1.32

Other grades same as Prairie Oil & Gas Co.

Magnolia Petroleum Co.

(Oklahoma, Kansas and North and East Central Texas, except Corsicana heavy, and Lytton Springs of South Central Texas.)

Below 28°	$1.20

Other grades same as Prairie Oil & Gas Co.

Iatan	$1.15
Corsicana heavy	1.15
(Panola County)	
34° to 34.9°	1.70
35° to 37.9°	1.85
38° and above	2.00

Texhoma Oil & Refining Co.
(Wichita Falls, Texas, District.)

Below 32°	$1.88
32° to 32.9°	1.94
33° to 33.9°	2.00
34° to 34.9°	2.06
35° to 35.9°	2.12
36° to 36.9°	2.18
37° to 37.9°	2.25
38° to 38.9°	2.30
39° to 39.9°	2.36
40° to 40.9°	2.42
41° to 41.9°	2.48
42° to 42.9°	2.54
43° to 43.9°	2.60
44° and above	2.69

Gypsy Oil Co.
(Bristow, Glenn Pool, Morris and Perryman, Okla.)

25° to 25.9°	$1.16
26° to 26.9°	1.24
27° to 27.9°	1.32

Other grades same as Prairie Oil & Gas Co.

TEXAS PANHANDLE

Kay County Gas Co.
Magnolia Petroleum Co.

Below 31°	$1.20
31° to 33.9°	1.35
34° to 36.9°	1.55
37° to 39.9°	1.70
40° and above	1.75

GULF COAST

***Humble Oil & Refining Co.**

Grade A	$1.50
Grade B—	
Below 25°	1.25
25° to 25.9°	1.30
26° to 26.9°	1.35
27° to 27.9°	1.40
28° to 28.9°	1.45
29° to 29.9°	1.50
30° and above	1.55
Sour Lake (36° gravity) (The Texas Company)	1.79
Boling	1.50
Piedras Pintas (deep sand)	1.75
High Island	1.25

*And other major purchasers, including The Texas Company, and the Sun Oil Co. High Island crude posted by the Sun Oil Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

***Magnolia Petroleum Co.**

Luling (contract)	$1.20
Mirando (Webb, Jim Hogg and Zapata Counties)	1.15
Rockdale-Minerva (Milam County)	1.25
Thrall	1.00
Callihan (Live Oak and McMullen Counties)	1.65
§Lockhart (Lytton Springs)	...
§Somerset	...

*Texpata Pipeline Co. also posts in Mirando Field paying same prices as Magnolia Petroleum Co. Crown Central Petroleum Co. pays $1.20 for Mirando crude.

§Lockhart and Somerset prices same as for North and East Central Texas. Lockhart posted by Magnolia Petroleum Co. and Humble Oil & Refining Co. Somerset is posted by Grayburg Oil Co.

ARKANSAS AND NORTH LOUISIANA

Standard Oil Co. of Louisiana

Caddo below 32°	$1.85
32° to 34.9°	2.00
35° to 37.9°	2.10
38° and above	2.20
Homer below 31°	1.60
31° to 32.9°	1.75
33° to 34.9°	1.85
35° and above	1.95
Haynesville below 33°	1.75
33° and above	1.85
El Dorado below 33°	1.75
33° and above	1.85
Bull Bayou, 32° to 34.9°	1.70
35° to 37.9°	1.85
38° and above	2.00
Cotton Valley	1.10
DeSoto	2.05
Crichton	1.85
Bellevue	1.50
Smackover, below 24°	1.00
24° to 24.9°	1.25
25° to 25.9°	1.30
26° to 26.9°	1.35
27° and above	1.40
*Stephens, Ark., below 26°	1.30
26° and above	1.50
**Calion (East El Dorado)	.95
§Urania	1.30

Other companies posting in these fields are: Gulf Pipe Line Co.; Atlantic Oil Producing Co. in Homer, Haynesville and Smackover; The Texas Company in Caddo, Bull Bayou, DeSoto, Crichton and Smackover.

*Posted by the Atlantic Oil Producing Co.
**Posted by the Gulf Pipe Line Co.
§Posted by the Louisiana Oil Refining Corp.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Rock Creek (Wyo.)	$2.00
Salt Creek—	
29° to 29.9°	1.48
30° to 30.9°	1.56
31° to 31.9°	1.64
32° to 32.9°	1.72
33° to 33.9°	1.80
34° to 34.9°	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° and above	2.12
Big Muddy	2.00
Mule Creek	1.50
Grass Creek, light	2.15
Grass Creek, heavy	.90
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Lost Soldier (contract)	1.10
Greybull-Torchlight	1.90
Hamilton Dome	1.35
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.15
Florence (Colo.)	1.35
Artesia	1.70
Hogback (N. M.)	2.20

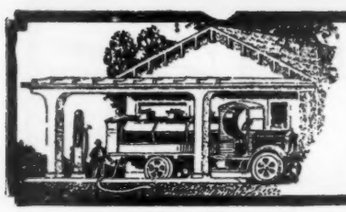
Note: Salt Creek, Osage, Cat Creek and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency

Penna Grade Oil in New York Transit Lines (New York)	3.65
Bradford District Oil in National Transit Lines (Pennsylvania)	3.65
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.55
Penna Grade Oil in Southwest Pa. Pipe Lines (Pennsylvania)	3.55
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	3.50

(Continued on Page 154)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Apr. 13.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Chicago Dist.—				
†Less than 10 gals.	17.0	19.0	...	12.0

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, g. up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1, g. down 1c; Feb. 4, 1926, g. up 1c, k. up 1c.

Decatur, Ill.	17.0	19.2	...	12.5
East St. Louis.	16.1	18.35	...	11.6
Joliet	17.4	19.4	...	12.7
Peoria	17.2	19.2	...	12.7
Quincy	17.2	19.2	...	12.3
Davenport, Ia.	19.5	21.5	2.0	12.9
Des Moines	19.5	21.5	2.0	12.9
Keokuk	19.5	21.5	2.0	12.9
Sioux City	19.0	21.0	2.0	12.5
Duluth, Minn.	20.5	22.5	2.0	13.6
Minneapolis	20.2	22.2	2.0	13.6
La. Crosse, Wis.	20.2	22.2	2.0	13.1
Milwaukee	19.1	21.1	2.0	12.3
Madison	19.3	21.3	2.0	12.5
Detroit, Mich.	19.8	21.8	2.0	13.2
Grand Rapids	19.7	21.7	2.0	13.1
Saginaw	19.9	21.9	2.0	13.3
Evansville, Ind.	20.0	22.0	3.0	12.5
Fort Wayne	20.4	22.4	3.0	12.9
Indianapolis	20.2	22.2	3.0	12.7
South Bend	20.4	22.4	3.0	12.9
Fargo, N. D.	20.9	22.9	1.0	15.6
Huron, S. D.	19.0	21.0	3.0	14.1
Sioux Falls	19.0	21.0	3.0	13.6
*K. C., Mo.	19.9	21.9	3.0	11.3
*Springfield	19.8	21.8	3.0	12.2
*St. Louis	18.6	20.9	2.5	12.0
*St. Joseph	19.0	21.0	2.5	11.9
‡Wichita, Kan.	17.8	19.8	2.0	11.8
Bartlesville, Ok.	18.8	20.8	3.0	10.9

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 16.0.
‡At all Kansas points a discount of 1 cent a gallon is allowed from the tank wagon postings on dumps of 50 gallons or more.

The following monthly rebate system is effective on tank wagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ½c; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1½ cents; over 10,000 gallons, 2 cents. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Atlantic City	17.0	....	...	15.0
Newark, N. J.	17.0	19.0	...	15.0
Annapolis, Md.	19.0	....	2.0	15.0
Baltimore	19.0	22.0	2.0	15.0
Cumberland	19.0	22.0	2.0	15.0
Washington	19.0	22.0	2.0	15.0
Danville, Va.	21.5	....	4.5	15.0
Norfolk	21.5	24.5	4.5	15.0
Petersburg	21.5	....	4.5	15.0
Richmond	21.5	24.5	4.5	15.0
Roanoke	21.5	24.5	4.5	15.0
Charleston, W. Va.	20.5	23.5	3.5	15.0
Keyser	20.5	....	3.5	15.0
Parkersburg	20.5	23.5	3.5	15.0
Wheeling	20.5	23.5	3.5	15.0
Charlotte, N. C.	21.0	24.0	4.0	15.0
Hickory	21.0	....	4.0	15.0
Mt. Airy	21.0	....	4.0	15.0
Salisbury	21.0	....	4.0	15.0
Charleston, S.C.	22.0	25.0	5.0	15.0
Columbia	22.0	25.0	5.0	15.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Albany, N. Y.	19.0	....	...	16.0
*New York	19.0	....	...	16.0
Buffalo	19.0	....	...	16.0
Rochester	17.0	....	...	16.0
Syracuse	19.0	....	...	16.0
Boston, Mass.	19.0	....	....	....
Providence, R.I.	20.0	....	1.0	....
Augusta, Me.	22.0	....	3.0	16.0
Manchester, N. H.	21.0	....	2.0	16.0
Burlington, Vt.	21.0	....	2.0	16.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
*Pittsburgh, Pa.	18.0	23.0	...	16.0
*Philadelphia	18.0	23.0	...	16.0
*Scranton	18.0	23.0	...	16.0
*Allentown	18.0	23.0	...	16.0
Altoona	18.0	23.0	...	16.0
*Erie	18.0	23.0	...	16.0
Dover, Del.	20.0	23.0	2.0	16.0
Wilmington	20.0	23.0	2.0	16.0
Spring'fd, Mass.	19.0	22.0	...	16.0
Worcester	19.0	22.0	...	16.0
Boston	19.0	22.0	...	16.0
Providence, R.I.	20.0	23.0	1.0	16.0
Hartford, Conn.	21.0	24.0	3.0	15.0
New Haven	21.0	24.0	3.0	16.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Dallas, Tex.	15.0	17.0	1.0	11.0
Fort Worth	14.0	16.0	1.0	11.0
Houston	16.0	18.0	1.0	12.0
San Antonio	15.0	17.0	1.0	11.0
El Paso	18.0	20.0	1.0	13.0
Texarkana	17.5	20.5	1.0	13.0
Muskogee, Ok.	17.0	20.0	3.0	10.0
Oklahoma City	17.0	20.0	3.0	12.0
Tulsa	17.0	20.0	3.0	12.0
Little Rock	18.5	21.5	4.0	14.5
Ft. Smith, Ark.	18.5	21.5	4.0	14.5

*The following is the schedule of discounts on gasoline adopted by the Magnolia Petroleum Co. in Texas sales and the discounts are grade according to gallonage: Over 750 gallons a month, ½ cent; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases as in the tank wagon discounts.

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
All Ohio points	21.0	23.0	2.0	14.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Atlanta, Ga.	23.0	26.0	3.5	17.0
Augusta	23.0	26.0	3.5	17.0
Macon	23.0	26.0	3.5	17.0
Savannah	20.0	23.0	3.5	15.0
Birm'gham, Ala	20.0	23.0	2.0	16.5
Mobile	19.0	22.0	2.0	15.0
*Montgomery	21.0	24.0	3.0	17.5
Clarksdale, Miss	21.0	24.0	4.0	14.6
Jackson	21.0	24.0	4.0	13.5
Natchez	20.5	23.5	4.0	14.0
Vicksburg	20.5	23.5	4.0	14.0
Jack'ville, Fla.	21.0	24.0	4.0	16.0
Miami	23.0	26.0	4.0	16.5
Pensacola	21.0	24.0	4.0	15.5
Tampa	21.0	24.0	4.0	15.0
Covington	23.0	26.0	5.0	16.0
Louisville	23.0	26.0	5.0	15.0
Lexington, Ky.	22.0	25.0	5.0	16.0

*In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ⅛ cent on kerosene.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
*New Orleans	17.0	20.0	3.0	13.5
Alexandria	16.5	19.5	2.0	14.5
Baton Rouge	15.5	18.5	2.0	13.0
LaFayette	16.5	19.5	2.0	14.0
Lake Charles	17.0	20.0	2.0	14.5
Shreveport, La.	16.5	18.5	2.0	13.5
Memphis, Tenn.	19.0	22.0	3.0	15.5
Chattanooga	21.0	24.0	3.0	16.0
Knoxville	21.0	24.0	3.0	16.5
Nashville	20.0	23.0	3.0	16.0
Bristol	21.5	24.5	3.0	16.0
Little Rock, Ark	18.5	21.5	4.0	14.5

*Tax of 3 cents includes city tax of 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Omaha	18.25	20.25	2.0	12.5
Crawford	20.0	....	2.0	13.25
McCook	20.75	22.75	2.0	14.0
Norfolk	19.75	21.75	2.0	13.0
North Platte	20.75	22.75	2.0	13.75
Scottsbluff	20.25	22.75	2.0	13.25

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
Denver, Colo.	20.0	20.0	2.0	15.5
Pueblo	19.0	19.5	2.0	15.5
Casper, Wyo.	20.5	22.5	2.5	14.0
Cheyenne	21.5	23.5	2.5	15.5
Butte, Mont.	22.0	22.0	2.0	17.0
Helena	24.0	26.0	2.0	18.0
Salt Lake, Utah	25.0	27.0	3.5	18.0
Boise, Idaho	26.0	28.0	3.0	20.0
Albuquerque, N. Mex.	24.5	27.5	3.0	17.5

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline Tank wagon	Gasoline Service station	Gasoline Incldg tax of	Kero. Tank wagon
San Francisco	18.0	23.0	2.0	15.5
Los Angeles	16.5	20.5	2.0	15.5
Fresno	18.5	22.5	2.0	17.5
Reno, Nev.	23.5	27.5	4.0	19.0
Portland, Ore.	19.0	23.0	3.0	16.5
Seattle, Wash.	18.0	22.0	3.0	16.5
Spokane	22.0	26.0	3.0	20.5
Tacoma	18.0	22.0	3.0	16.5
Phoenix, Ariz.	25.0	28.0	3.0	21.5

CALIFORNIA

***Standard Oil Co.-Union Oil Co.**

Gravity—	Long Beach Huntington Beach Richfield Brea-Olinda Rosecrans Dom'gues Torrance-Inglewood	Whittier La Habra Montebello	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Beiridge	Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria Ventura Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.87	.85	.75	.85	....	.75	.75	.85
16°	.90	.85	.75	.85	....	.75	.75	.85
17°	.94	.85	.75	.85	....	.75	.75	.85
18°	.98	.86	.75	.86	....	.75	.75	.85
19°	1.04	.87	.75	.87	....	.75	.76	.85
20°	1.10	.89	.82	.90	.89	.79	.78	.90
21°	1.16	.91	.90	.98	.91	.86	.81	.97
22°	1.22	.94	1.00	1.06	.94	.93	.85	1.04
23°	1.28	.97	1.11	1.14	.97	1.00	.89	1.11
24°	1.34	1.01	1.22	1.22	1.02	1.07	.93	1.18
25°	1.40	1.05	1.33	1.30	1.08	1.14	.97	1.25
26°	1.46	1.09	1.44	1.38	1.16	1.21	1.01	1.33
27°	1.52	1.13	1.55	1.46	1.24	1.28	1.05	1.39
28°	1.58	1.17	1.66	1.54	1.32	1.35	....	1.46
29°	1.64	1.21	1.77	1.62	1.40	1.42	....	1.53
30°	1.70	1.25	1.88	1.70	1.48	1.49	....	1.60
31°	1.76	....	1.99	....	1.60	1.56	....	1.67
32°	1.84	....	2.10	....	1.72	1.63	....	1.73
33°	1.92	....	2.21	....	1.84	1.70	....	1.79
34°	2.00	....	2.32	....	1.96	1.77	....	1.85
35°	2.08	....	....	....	2.08	1.84	....	1.92
36°	2.16	....	....	....	2.16	....	....	....
37°	2.24	....	....	....	2.24	....	....	....
38°	2.34	....	....	....	2.34	....	....	....
39°	2.44	....	....	....	2.44	....	....	....
40°	2.54	....	....	....	....	....	....	....
41°	2.64	....	....	....	....	....	....	....
42°	2.74	....	....	....	....	....	....	....

*Column 2—Long Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Brea-Olinda, 14 to 30 degrees; Torrance and Inglewood, 14 to 28; Domingues, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 3—Whittier and La Habra crudes, 14 to 32 degrees; Montebello, 14 to 30 degrees.

Column 4—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset and Elk Hills, 14 to 33 degrees; Lost Hills and Beiridge, 14 to 34 degrees.

Column 6—Santa Fe Springs. Only Union Oil Co. posts below 24 degrees.

Column 9—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 35 degrees. Posted only by Union Oil Co.

GOING OVER MID-CONTINENT

R. H. Hubbell of Hill, Hubbell & Co., paint manufacturers of Los Angeles, is making a tour of the Mid-Continent oil fields and during the next month will be in that territory investigating conditions. G. G. Langan, manager of the Mid-Continent division of the company, met Mr. Hubbell in St. Louis and is traveling with him.

TANK WAGON PRICE CHANGES

April 6.—Standard Oil Co. of Indiana advanced tank wagon and service station prices of gasoline 1.9 cents at Bartlesville, Okla.

April 8.—Standard Oil Co. of Indiana reduced tank wagon and service station prices of gasoline a half-cent in Kansas and at Bartlesville, Okla. In Kansas, the same company also posted an additional 1-cent discount on all dumps of 50 gallons or more. Standard Oil Co. of New Jersey advanced gasoline 1 cent in New Jersey, Maryland and District of Columbia, and a half-cent in West Virginia.

CRUDE PRICE CHANGES

April 5.—Louisiana Oil Refining Corp. reduced Urania, La., crude 10 cents.

April 12—Kay County Gas Co. and Magnolia Petroleum Co. advanced Panhandle, Texas, crude 5 cents on each grade following new postings by the Plains Pipe Line Co.

JOINS MARLAND STAFF

R. P. Fleckenstein has joined the sales force of the Marland Refining Co. at Chicago and will represent the company in Michigan. He has been connected with the Fleckenstein Pump Co. of Grand Rapids, Mich.

CRUDE OIL PRICES

(Continued from Page 153)

Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.30
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.20
Corning Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.35
Somerset Medium Oil in Cumberland Pipe Line Lines (Kentucky)	2.30
Somerset Light Oil in Cumberland Pipe Line Lines (Kentucky)	2.45
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	1.15
Gaines (Pennsylvania)	2.95
Keister (Pennsylvania)	2.45

MIDDLE WESTERN STATES

Ohio Oil Co.

Lima	$2.23
Wooster	2.35
Illinois	2.12
Indiana	2.00
Princeton	2.12
Plymouth	1.65
Waterloo	1.10
*Western Kentucky, 32.9° and below	1.85
33° to 35.9°	1.95
36° to 38.9°	2.05
39° and above	2.15
**Cumberland, Barren and Monroe Counties	2.45
†Oil Springs (Canada)	2.70
†Petrolia (Canada)	2.63

*Posted by Indian Refining Co.
**Posted by Paragon Development Co.
†Posted by Imperial Oil Co., Ltd.

MEXICAN

*Tuxpam light (f.o.b. Mex. ports)	$1.35
§Panuco heavy (f.o.b. Mex ports)	1.15
Tuxpam (New York)	2.05
Panuco (New York)	1.70

*Plus 30.33c tax. §16.93c tax.

WAR on WASTE!

THE motorist, in buying oil, is entitled to correct lubrication for his engine—and it is the dealer's responsibility to see that he gets it. Sinclair feels that responsibility—and therefore manufactures Opaline Motor Oil to sell according to the Sinclair Law of Lubrication—a different grade of Opaline Motor Oil "for every degree of wear" of the engine.

This means correct lubrication and economical transportation. It is the motorist's protection against *Waste of Power* and wearing of parts. This is the Sinclair dealer's method of making more satisfied customers.

SINCLAIR REFINING COMPANY
45 Nassau Street, New York
Atlanta Detroit Kansas City Chicago Houston Omaha

SINCLAIR **OPALINE** MOTOR OIL
REG. U.S. PAT. OFF.

1916-26—TEN YEARS OF MANUFACTURING AND DISTRIBUTING PETROLEUM PRODUCTS OF QUALITY

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Comparatively Active, Weak Market

Several Oil Securities Drop to New Lows. Atlantic Refining Issue the Exception, Selling at the Year's High

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, 30 Church St., New York

NEW YORK, Apr. 12.—Oil securities were weak and comparatively active during the past week with numerous issues registering new low prices for the year. Among the latter were Tide Water oil, Sinclair Consolidated, Galena-Signal Oil, Standard of Kansas, and Gulf Oil. Atlantic Refining was the exception, selling up to the year's high of 110.

The National Supply Co. has declared a quarterly dividend of $1 a share on the common stock, payable May 15 to stockholders of record May 5. This places the stock on a $4 annual dividend basis, compared with a previous rate of $3.

The General Petroleum-Standard Oil Co. of New York merger is not expected to be finally consummated until word has been received from Washington that it is approved, according to the latest information available.

Associated Oil stock has been dull around $48 a share. This compares with a price of $58.50 a share paid by a syndicate for Standard of California's holdings, amounting to more than 1,000,000 shares.

Tide Water Oil Co. common is quoted around $32 a share. Tide Water Associated Oil stock is selling around $24 a share.

An issue of $46,000,000 of Tide Water Associated Oil stock was sold, which was partly for the purpose of purchasing the Associated Oil stock as mentioned above.

Union Oil of California

The unfortunate fires which are estimated to have burned up many millions of barrels of crude and refined oil at two of the tank farms of the Union Oil Co. of California had a depressing effect on Union of California stock, which dropped about three points to 41, at which price it was strongly supported. It is said President W. L. Stewart will make an official statement to stockholders as soon as the facts are available.

Those who stress the economic benefit of a reduction in stocks of oil to the oil business in general, cannot overlook the unfavorable psychological effect of a fire which destroys in a few days $10,000,000 or more worth of petroleum.

Mexican Seaboard Oil

Sinclair Consolidated Oil Corp. has sold the remainder of the Mexican Seaboard Oil Co. 7 per cent debentures which it owned. The Sinclair company originally held the total of this issue amounting to $10,700,000, which has been reduced by retirement to $3,500,000. Some parts of the latter were sold from time to time and within the last fortnight the remainder of the $3,500,000 was sold to an individual.

Associated Oil

Word from Los Angeles states that Associated Oil Co. has made a 10-year contract with the Standard Oil Co. of California to buy crude oil which, in the past, it purchased on a day-to-day basis from the Pacific Oil Co. This is a continuation of an agreement long standing and assures Associated Oil Co. an adequate crude supply. Associated also comes into possession of all properties formerly jointly held with Pacific, which further strengthens its position.

Gilliland Oil

Gilliland Oil Co. has made payment on its semi-annual sinking fund and interest on outstanding bonds, in the amount of $640.460 April 2, reducing its present outstanding bonded debt to $3,950,775, compared with $6,274,500 at the time of the receivership. The company has been making good progress. Although operating on small working capital, it has increased both its crude and casinghead gasoline production. Gross income is running at the rate of about $250,000 a month, it is said.

Atlantic Refining

Atlantic Refining Co. common stock was strong, advancing to within a fraction of the year's high price. In some quarters it is anticipated dividends will be resumed on the stock in the near future, although this would mean recalling part of the company's bonded debt.

Gross income for 1925 was the second largest reported for any year in its history. Net profits, after all deductions and preferred dividend requirements, were the largest since 1920.

The detailed earnings statement showed gross income of $137,849,719 from operations, against $124,283,374 reported in 1924. After crediting other income, allowing for all deductions, including reserves for taxes, depreciation and depletion, and preferred dividends, the company reported a balance of $5,766,099, equal to $11.53 a share earned on the common stock of $100 par. In 1924 the company reported net income of $3,298,373 for the common stock, or $6.58 a share. In 1923 the company reported net profits of $835,634, which were insufficient for preferred dividend requirements.

The consolidated balance sheet as of December 31 showed a profit and loss surplus of $27,533,744, against $22,661,879 at the close of 1924. Current assets were valued at $63,575,452. Current liabilities amounted to $6,532,595, leaving net working capital of $57,042,857. The current assets included $2,346,457 cash, $14,908,515 notes receivable, $926,852 accounts receivable, inventory valued at $36,995,395, and Government and marketable securities valued at $4,068,626.

The Lago Petroleum Corp. reports a net profit of $3,330,263 for 1925 after depreciation, depletion and taxes, equal to 33 cents a share earned on 4,000,000 shares of no par stock.

Operating profit of Lago Petroleum before depreciation and depletion of $762,993 was $2,221,190. Other income was $22,066, and taxes were $150,000. Total assets were $20,495,258, including cash, $381,190; accounts receivable, $523,490; investments in other companies, $2,865,880, and concessions, plant and equipment, and materials and supplies, $16,857,221. Total liabilities were $19,319,419, including accounts payable, $467,737; common stock, $11,200,000; provision for taxes, $150,000.

In his report President James T. Currie said: "The profit and loss account covers what may be regarded as the initial period of the corporation and does not reflect its present earning capacity. The highest percentage of profits yielded, to the fourth quarter of 1925, 58 per cent of the year's profits.

"In addition to profit shown in the profit and loss account Lago Petroleum Corp. holds 49 per cent of the common stock of Lago-Oil Transport Co., Ltd., of Canada, whose net profits for the year 1925 after paying preference dividends amounted to $796,562."

Paragon Refining

Report of Paragon Refining Co., Toledo, Ohio, and subsidiaries for year ended December 31, 1925, shows deficit of $98,758 after depreciation and interest, comparing with deficit of $207,920 in previous year.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. Apr. 12	Clos. Quot. Apr. 5	1926 High	1926 Low	1925 High	1925 Low	1924 High	1924 Low
American Republics	..	*64½	68	74	63	79¾	48	48	35
Associated Oil	25	48	48	59⅛	44⅜	47¼	32	34⅝	27⅝
Atlantic Ref., com.	100	110	104	110	97	117½	95½	140⅜	78½
Barnsdall "A"	25	25½	27½	33½	26	33½	18⅝	29⅛	14
California Pet., com.	25	32⅜	34¼	38½	30⅝	34⅝	23⅝	29	19⅜
General Petroleum	25	58⅜	58¾	65⅜	51¼	59	42	46	38⅜
Houston Oil	100	54	56⅜	72	50¼	82	59	83½	61
Independent Oil & Gas	..	21⅜	24	34	20½	41⅜	13½	16⅜	6⅜
Indian Refining	10	9⅛	10	13⅜	9⅜	14¼	5⅛	7	3⅜
Louisiana Oil	10	13⅜	14½	19⅜	12	23⅜	13⅜	..	..
Maracaibo	..	22	23½	28⅛	20⅜	35½	20⅜	37¼	25⅜
Marland	..	52⅛	54	60¼	49⅛	60⅛	32⅜	42	29
Mexican Seaboard	..	8	8¼	12⅜	6	22⅛	9	25⅜	14⅛
Mid-Continent Pet.	..	28½	30⅜	41	28⅜	38	25⅜	40½	22⅜
National Supply	50	61⅞	63⅞	65⅞	55½	71	54⅜	72½	54
Oil Well Supply	25	31	*30¼	36	30½	38	33⅜	..	..
Pacific Oil	..	54	53⅜	53⅛	53⅜	78½	51⅛	58¼	45
Pan. Amer. P. & T., com.	50	63¼	62	76⅛	56⅛	83⅜	59½	65	44½
Pan. Amer., Western B	..	37⅛	37½	46	34	49⅜	37⅛	..	..
Phillips Pet.	..	42⅛	43⅛	45⅛	42½	17⅛	36⅛	42¼	28½
Producers & Refiners	50	12½	13	17½	11	32⅝	12⅛	43½	29⅜
Pure Oil, com.	..	25⅜	26⅜	31	26	33⅜	25⅛	30¼	20
Royal Dutch, N. Y., sh.	13.40	51⅜	51⅜	57⅜	50	57⅜	48¼	59⅛	40⅜
Shell Transport	10	*42⅜	42⅜	48⅝	42	49	39⅜	42	32
Shell Union, com.	..	25	24⅞	28⅛	24	28⅜	21⅜	23⅛	15⅜
Simms Pet.	10	20¼	21⅜	25⅝	20⅜	33½	17⅜	24	10⅜
Sinclair Consolidated, com.	..	19⅝	21¼	24⅜	19⅝	34⅜	17	17½	15
Skelly Oil	25	30	30⅜	32⅜	27	32½	21⅜	29	17½
Standard of California	25	53⅜	54⅜	62¼	54	67¼	51⅛	68⅛	55⅛
Standard of New Jersey, com.	25	41¼	42½	46⅝	40½	47⅛	38⅝	41⅝	33
Sun Oil Co.	..	32	*33	41⅝	31½	43⅞	33⅜	..	..
The Texas Company	25	50	51	54⅞	49	56	42⅜	45⅝	37⅜
Texas Pacific Coal & Oil	10	12⅜	13⅜	19½	12½	23⅜	11	15⅛	8¼
Tide Water Oil (new)	..	30¼	*32	39¼	30¼	‡152	122	151	116¼
Transcontinental	..	3¼	3¼	4⅜	3	5⅜	3½	6¼	3⅜
Union Oil of California	25	41⅝	45⅝	49⅜	37½	43⅜	32½	39	35½
Union Tank, com.	100	88	88	94	84¾	‡134	118	132⅜	94
White Eagle Oil & Refining	..	26¼	26⅝	29⅜	26¼	31⅜	25⅝	29⅝	23⅛
Standard Oils									
Anglo-American Oil	£1	17⅛	17⅝	19⅝	17⅝	26⅜	17½	18⅜	14⅝
Borne Scrymser	100	*230	*230	248	226	240	205	264	150
Buckeye Pipe Line	50	*53½	*53	59½	54⅓	72	53½	85½	51
Chesebrough Mfg. Co.	25	67	*65	72⅜	63	74	48¼	52½	29¼
Continental	10	20½	20⅝	25⅞	20½	31½	21⅞	..	..
Crescent Pipe Line	25	*14	*14	16	14½	17½	10	20	11⅜
Cumberland Pipe Line	100	120½	*120	137	126	156	128	148	108
Eureka Pipe Line	100	*53	*55	63⅜	56	96	61¼	105	74
Galena Signal, com.	100	19	*22½	32⅜	24	68½	23½	69⅜	62⅛
Humble Oil & Refining Co.	25	54⅜	56⅛	99⅜	56	99	42½	43⅜	36
Illinois Pipe Line	100	142	141½	144	134½	154½	124	161	123
Imperial Oil (Ltd.)	..	33¼	34⅛	38⅜	32⅜	39¼	27¼	119	99
Indiana Pipe Line	50	65	*65	67	58	84	57⅜	100	66
International Pet. Co.	10	30⅜	31⅜	35¼	28⅜	35⅜	22⅛	24⅜	16⅜
National Transit Co.	12.50	17	*16	20⅜	16	25½	16½	25⅞	20⅝
New York Transit	100	*43	*45	50	39	79	50	97	64½
Northern Pipe Line	100	*73	*73	80½	70⅝	88	67½	107½	72
Ohio Oil Co.	25	60½	61⅜	67⅝	59⅜	75⅛	60	79½	53
Penn.-Mex. Fuel	25	19½	*14	23	16½	44	19	35⅜	27
Prairie Oil & Gas	25	52	54⅜	60¼	52¼	65½	45⅜	269	193
Prairie Pipe Line	100	*125	*123	127	122½	129⅜	105	111	100
Solar Refining Co.	100	196	*196	212	191	259	200	240	170
South Penn Oil	25	*156	*40	50	40	‡197	139	176	117
Southwest Pa. Line	100	*53	*53	54⅛	47½	84	50	89	68
Southern Pipe Line	100	*65½	*65	74½	61½	103	63	100	80½
Standard of Indiana	10	62⅛	63¼	70½	61⅝	70⅜	59½	69⅜	54¼
Standard of Kansas	25	26½	28	36½	25	46	30¼	50⅜	32½
Standard of Kentucky	25	115	*116½	134⅜	108	137	114⅜	121⅜	101
Standard of Nebraska	100	253	260	363	206	270	231	262	198
Standard of New York	25	30⅝	32	47¼	31⅝	48⅜	40	48	37⅝
Standard of Ohio, com.	100	314	308	362	310	369	338	337½	277
Swan & Finch, com.	25	18¼	18⅝	21	18	27	12	28	20
Vacuum Oil	25	97½	99½	109⅝	94½	109½	80½	83½	60½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	82⅜	84⅜	93⅝	82½	98½	63½	67⅜	56

*Bid, no sales. ‡Old stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Apr. 12	56.07	Mar. 8	55.02	Feb. 1	58.51
Apr. 5	56.78	Mar. 1	55.84	Jan. 25	57.96
Mar. 29	56.18	Feb. 20	58.23	Jan. 18	57.38
Mar. 22	57.96	Feb. 15	57.51	Jan. 11	57.55
Mar. 15	56.34	Feb. 8	58.96	Jan. 4	59.15

NATURAL GASOLINE AS NON-DETONATING FUEL

Natural gasoline as a non-detonating motor fuel will be discussed in two papers which have just been added to the program of the annual convention of the Association of Natural Gasoline Manufacturers, to be held at the Mayo Hotel May 5 and 6, according to A. V. Bourque, secretary of the association.

Mr. Bourque received telegrams from Dr. E. H. Leslie and Dr. George G. Brown, professors of chemical engineering at the University of Michigan and from A. Ludlow Clayden, research engineer of the Sun Oil Co. at Philadelphia, Pa.

Doctor Leslie and Doctor Brown will prepare a paper on "The Relation of Volatility to Acceleration and Anti-Knock Properties of Natural Gasoline." Doctor Brown will read the paper, although Doctor Leslie will be present. G. G. Oberfell, research chemist of the Phillips Petroleum Co. at Bartlesville, will lead the discussion following the paper.

Mr. Clayton wired he would read a paper on "Characteristics of Natural Gasoline as a Non-Detonating Agency." L. F. Bayer, vice president of the Tidal Refining Co., will lead the discussion on this.

Reservations already are coming in for the convention, according to Mr. Bourque, who has made extensive preparations for the sessions. The remainder of the program was announced in last week's issue of The Oil and Gas Journal.

WELDING SOCIETY MEETING

The annual meeting of the American Welding Society will be held in the Engineering Societies Building, 33 West Thirty-ninth Street, New York., April 21, 22 and 23. The annual banquet will be held in the Hotel Astor on the evening of April 22.

NORTH CENTRAL TEXAS

(Continued from Page 62)

Coody, 10 bbls. at 1,178 feet. Cosden and Consolidated Oil Co.'s No. 3-A Oldham, 125 bbls. at 1,377 feet. Golding and others' No. 2 Lauster, dry at 1,202 feet; Ilsing Production Co.'s No. 1 Prideaux (Block 16), dry at 300 feet. Murchison and others' No. 1 Harris, dry at 1,501 feet. Prairie Oil & Gas Co.'s No. 6 Kreeger, 6 bbls. at 1,420 feet. Richards and others' No. 1 fee, dry at 1,501 feet. Shaw and others' No. 1-B Robinson, 25 bbls. at 650 feet. The Texas Company's No. 13 Haulser, 5 bbls. at 1,114 feet; No. 5 Jeske, 485 bbls. at 1,164 feet. Texhoma Oil & Refining Co.'s No. 13 Oldham, 115 bbls. at 1,375 feet; No. 14 Oldham, 380 bbls. at 1,375 feet; No. 6 Wolf, dry at 1,418 feet; No. 2-B Wolf, 60 bbls. at 1,359 feet. Texas Unity Co.'s No. 1 Kreeger, dry at 1,515 feet.

Young County

Bridwell and others' No. 3 Farmer, 125 bbls. at 1,064 feet; No. 4 Farmer, dry at 1,063 feet; No. 4 Street, 35 bbls. at 1,286 feet. Carter and others' No. 5 Benson, 10 bbls. at 918 feet. Harris and others' No. 1 Watson, 5 bbls. at 512 feet.

Brown County

Barbour Oil Co.'s No. 7-B Prather, dry at 1,307 feet; No. 8-B Prather, dry at 1,326 feet. Barkley and others' No. 4 Dunn, 520 bbls. at 1,114 feet. Conway Brothers' No. 5 Chambers, 150 bbls. at 1,310 feet. Cosden Co.'s No. 6 Westerman, 250 bbls. at 1,304 feet. Cox and others' No. 1 Algood, dry at 2,085 feet. Curry and others' No. 1 Stone, dry at 1,431 feet. Humble Oil & Refining Co.'s No. 4 Dunn, 600 bbls. at 1,125 feet. Keough Brothers' No. 1 Wheeler, 20 bbls. at 2,740 feet. States Oil Corp.'s No. 1-C Allen, dry at 1,252 feet. The Texas Company's No. 3 Dunn, 170 bbls. at 1,134 feet. Moore and others' No. 1 Wood, dry at 1,651 feet.

Eastland County

Knox-Lewis Oil Co.'s No. 1 Wright, dry at 2,937 feet. Panhandle Refining Co.'s No. 1 Wright, dry at 1,690 feet. Reeves and others' No. 1 Leveridge, dry at 3,250 feet.

Callahan County

The Texas Company's No. 1 Legett, dry at 2,306 feet. Weiler Brothers' No. 1 Block 31, 15 bbls. at 1,472 feet.

Hutchinson County

Westex Oil Co.'s No. 2 J. A. Whittenburg, 325 bbls. at 2,952 feet.

Clay County

Neff and others' No. 1 Roper, dry at 1,203 feet.

Montague County

The Texas Company's No. 4 Oldham, 120 bbls. at 1,128 feet.

Cooke County

Porter and others' No. 1 Pierce, dry at 2,225 feet.

Jack County

Buttram Petroleum Co.'s No. 2 Preston, 50 bbls. at 2,065 feet.

Scurry County

Carey and others' No. 1 Newton, 10 bbls. at 1,785 feet.

Shackelford County

Humble Oil & Refining Co.'s No. 1 Cook, 600 bbls. at 1,347 feet.

Coleman County

Monroe Production Co.'s No. 1 Hutchings, 3,000,000 feet of gas at 956 feet.

Upton County

Marland Oil Co.'s No. 1 Sanger Brothers' 75 bbls. at 2,230 feet.

Crockett County

Republic Production Co.'s No. 1 Todd, dry at 1,735 feet.

Archer County Drilling

Shasta Oil Co.'s No. 1 Ferguson, drilling at 1,800 feet; No. 13 Mangold, 550 feet; Texhoma Oil & Refining Co.'s No. 9 Hamilton, 900 feet; Anderson and others' No. 5 Perkins, 805 feet; Burns and others' No. 1 Wilson, 1,100 feet; Consolidated Oil Co.'s No. 1 Taylor, 80 feet; Howell and others' No. 1 Brown, 300 feet; Kollatt and others' No. 5 White, cleaning out at 1,449 feet; Lewis and others' No. 1-B Thompson, drilling at 1,330 feet; Maer and others' No. 1 Prescott, 1,422 feet; Magnolia Petroleum Co.'s No. 1 McCrory, 2,045 feet; No. 4-B Rutty, 235 feet; Norwood and others' No. 2 Rutty, 900 feet; Phillips and others' No. 1 Lyles, 200 feet; Riner and others' No. 1 Preston, 1,320 feet; Shappell and others' No. 2-A Wilson, 1,560 feet; Simms Oil Co.'s No. 1-A Turbeville, 600 feet; The Texas Company's No. 1-B Dycus, 1,270 feet; Texhoma Oil & Refining Co.'s No. 3-A Parrish, 1,300 feet; Tidal Oil Co.'s No. 1 Griffin, 1,880 feet; Wanderer Oil Co.'s No. 1 Turbeville, 300 feet; White Eagle Oil & Refining Co.'s No. 2 Marcell, 400 feet; Whittekin and others' No. 1 McCrory, 1,415 feet; Wright and others' No. 4 Miller, 360 feet; Camp Oil & Gas Co.'s No. 4 Rachuig, 990 feet; Carter and others' No. 5 Cowan, 1,000 feet; Cosden and others' No. 5-A Oldham, 1,095 feet; No. 1-C Oldham, 350 feet; Golding and others' No. 1 Lauster, 710 feet; Gwynn and others' No. 1 Echols, 200 feet; Hammond and others' No. 1 Richardson, 900 feet; Hopper and others' No. 1 Robinson, 300 feet; Humble Oil & Refining Co.'s No. 3 Wolf, 350 feet; No. 4 Wolf, 1,050 feet; Magnolia Petroleum Co.'s No 2 Lauster, 1,260 feet; No. 8 Rogers, 720 feet; Murchison and others' No. 1 Pace, 900 feet; Pandem Oil Corp.'s No. 1 Coffield, 975 feet; Primrose Petroleum Co.'s No. 8 Wolf, 1,435 feet; Prairie Oil & Gas Co.'s No. 3 Kovar, 600 feet; Shaw and others' No. 1 Prideaux, 350 feet; Sun Oil Co.'s No. 1 Brown, 650 feet; The Texas Company's No. 7 Jeske, 1,156 feet; No. 9 Jeske, 400 feet; No. 10 Jeske, 783 feet; No. 1 Key, 950 feet; No. 8 Richardson, 1,185 feet; No. 1 Wright, 1,201 feet; Texhoma Oil & Refining Co.'s No. 2 Abercrombie, 750 feet; No. 15 Oldham, 1,337 feet; No. 16 Oldham, 1,103 feet; Tidal Oil Co.'s No. 1 Terrell, 700 feet.

Young County

Booth Oil Co.'s No. 2 Graham, drilling at 550 feet; Bridwell and others' No. 1 Beardon, 725 feet; No. 5 Farmer, 815 feet; Cook and others' No. 1 Keen, 700 feet; Gwynn and others' No. 1 Winkler, 750 feet; Humble Oil & Refining Co.'s No. 10 Mercer, 725 feet; Whitehead and others' No. 2 Belknap Coal Co., 4,650 feet; Wilson and others' No. 7 Beardon, 750 feet; Dyer and others' No. 1 Costello, 1,100 feet; Hubbard Drilling Co.'s No. 1 Harrison, fishing at 2,780 feet; No. 1 Hunt, drilling at 1,700 feet; Humphreys Corp.'s No. 1 Griffin, 300 feet; Nash and others' No. 3-B Williams, 1,320 feet; No. 1 Wergess, 700 feet; Phillips Petroleum Co.'s No. 2 Corbett, 3,325 feet.

Shackelford County

Amerada Petroleum Corp.'s No. 1 Cook, drilling at 780 feet; Buckeye Pipe & Supply Co.'s No. 1 Black Brothers, 807 feet; Dunnaway and others' No. 2 Elliott, spudding; Dunbar and others' No. 1 Matthews, underreaming; Hope Petroleum Co.'s No. 1 Davis, drilling at 1,020 feet; J. K. Hughes Developing Co.'s No. 1 Myer, 650 feet; McCrea and others' No. 1 Davis, 670 feet; Magnolia Petroleum Co.'s No. 1 Midkiff, 745 feet; Melton Oil Co.'s No. 1 Edwards, fishing at 1,290 feet; Milham Corp.'s No. 1 Sedwick, drilling at 2,630 feet; No. 1 Simpson, underreaming; No. 1 Wilie, spudding; Overley and others' No. 1 Stevens, spudding; Phillips Petroleum Co.'s No. 9 Lynch, spudding; Roeser & Pendleton's No. 1-A-81 Cook, drilling at 725 feet; No. 3-A-85 Cook, 1,100 feet; No. 1-B-85 Cook, underreaming; Simms Oil Co.'s No. 1 Myrick, underreaming.

Stephens County

Benson Drilling Co.'s No. 3 Bell, underreaming; Interstate Consolidated Oil Co.'s No. 3 Lee, driling at 1,560 feet; Kenridge Oi Co.'s No. 1 Coody, 1,605 feet; Mid-Kansas Oi & Gas Co.'s No. 4 G. W. Hill, 875 feet; Mid-Tex Oil Co.'s No. 5 Cunningham, 1,000 feet; No. 3 Morrison, 2,335 feet; No. 1 Vick, 406 feet; Rhodes and others' No. 4 Crowley, 500 feet; Swensondale Oil Co.'s No. 1-B Echols, 3,515 feet; Barnhart and others' No. 1 Bradford, fishing at 3,605 feet; Brown & Co.'s No. 3 Akin, drilling at 1,370 feet; Eidson and others' No. 4 Crowley, cleaning out after shot at 1,882 feet; Federal Oil Co.'s No. 1 Gratz, drilling at 2,645 feet; Hanlon Gasoline Co.'s No. 1 Curry, 2,640 feet; No. 2 Curry, 2,575 feet; Hughes and others' No. 5 Gandy, 2,180 feet; Humble Oil & Refining Co.'s No. 2 Yoes, 1,690 feet; Landreth Production Co.'s No. 2 Akin, 1,040 feet; Lauderdale and others' No. 1 Sikes, 3,435 feet; Meredith and others' No. 1 Chesley, 1,240 feet; Reeves and others' No. 1 Tolle, fishing at 1,180 feet; Robert Oil Corp.'s No. 1 Thorpe, 600 feet; Swensondale Oil Co.'s No. 32 Swenson, 1,820 feet; No. 1 Taylor, 850 feet; Texas Pacific Coal & Oil Co.'s No. 63 Binney, 500 feet; No. 64 Binney, 1,115 feet; No. 1 Hancock, 225 feet; No. 3-B Winston, 715 feet; The Texas Company's No. 12 Curry, 3,138 feet.

Eastland County

Barker and others' No. 1 Butler, setting casing at 1,240 feet; Corzelius Brothers' No. 1 Cooper, fishing at 3,150 feet; Eastland Oil Co.'s No. 1 Armstrong, cleaning out at 1,500 feet; Kirk and others' No. 1 Blackwell, drilling at 2,640 feet; Lewis and others' No. 1 Schmick, at 850 feet; Lobough and others' No. 1 Casey, 1,780 feet; Prairie Oil & Gas Co.'s No. 2 Brelsford, 3,305 feet; Teatsworth and others' No. 9 Scott, spudding; Texas Pacific Coal & Oil Co.'s No. 26 Butler, drilling at 3,380 feet; Bateman and others' No. 1 Mulloy, 2,775 feet; Corzelius Brothers' No. 1 Poe, 2,450 feet; McBride and others' No. 1 Johnson, 2,700 feet; Rumbaugh and others' No. 1 White, fishing at 1,650 feet; Simon and others' No. 1 Morgan, underreaming; The Texas Company's No. 1 Noble, drilling at 240 feet.

Coleman County

Burke and others' No. 1 Dibrell, drilling at 1,650 feet; Curtis and others' No. 1 Sealy, 250 feet; Evans and others' No. 1 Walker, 1,550 feet; Independent Oil & Gas Co.'s No. 1 Dibrell, 480 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Dibrell, 840 feet; Moore and others' No. 1 Morris, 1,610 feet; Owen and others' No. 1 Baker, 2,015 feet; Pennant Oil & Gas Co.'s No. 1 Neeb, 1,200 feet; Superior Oil Co.'s No. 1 Helton, 1,515 feet; White Eagle Oil & Refining Co.'s No. 1 Dibrell, 300 feet; Howard Petroleum Co.'s No. 1 Stearns, 1,150 feet; Ross and others' No. 1 Haygood, fishing at 1,390 feet; No. 1 Stewardson, spudding; Wright and others' No. 1 Starr, drilling at 600 feet.

Brown County

Anderson and others' No. 1 Williams, drilling at 2,700 feet; No. 1 Algood, 400 feet; No. 1 Clark, 2,700 feet; Barbour Oil Co.'s No. 4-A Prather, 1,000 feet; Barkley and others' No. 6 Dunn, fishing at 780 feet; Carter and others' No. 1 Stapp, fishing at 1,000 feet; Conway Brothers' No. 6 Chambers, drilling at 600 feet; No. 4 Pickett, at 800 feet; Cosden and others' No. 8 Westerman, 684 feet; Curry and others' No. 1 Pickett, spudding; Denny and others' No. 1 Cason, cleaning out at 2,000 feet; Douglas and others' No. 1 Graham, fishing at 1,135 feet; Gibson Oil Co.'s No. 1 Carmichael, spudding; Gillespie and others' No. 2 Newton, drilling at 1,211 feet; No. 3 Newton, spudding; Gilman and others' No. 9 Chambers, drilling at 1,000 feet; No. 4 Thompson, spudding; Hepburn Oil Co.'s No. 2 Gaines, drilling at 1,288 feet; J. K. Hughes Developing Co.'s No. 4 Arledge, spudding; Humble Oil & Refining Co.'s No. 7 Dunn, drilling at 550 feet; No. 8 Dunn, 165 feet; No. 9 Dunn, 320 feet; No. 2 Hodnett, fishing at 1,210 feet; McCarter and others' No. 3 Allen, drilling at 940 feet; No. 4 Allen, spudding, McLester Oil Co.'s No. 6 Clark, drilling at 920 feet; Mahlstedt Oil Co.'s No. 1 Eubanks, 800 feet; Milham Corp.'s No. 1 Eddington, 1,120 feet; Mims and others' No. 1 Nations, 200 feet; Mulloy and others' No. 1 Newton, 350 feet; Prairie Oil & Gas Co.'s No. 14 Gaines, 660 feet; No. 1 Turner, 1,661 feet; Root and others' No. 1 Suttles, 350 feet; No. 1 Buzbee, fishing at 810 feet; Schaffner and others' No. 9 Prather, drilling at 830 feet; Shadbolt and others' No. 1 Lewis, 1,350 feet; Simms Oil Co.'s No. 7 Gaines, 400 feet; Slick and others' No. 3 Starr, 2,685 feet; E. L. Smith Oil Co.'s No. 2 Dunn, 775 feet; No. 3 Dunn, 575 feet; No. 4 Dunn, 400 feet; No. 5 Dunn, 350 feet; No. 1 Eddington, 1,190 feet; States Oil Corp.'s No. 2-C Allen, 1,060 feet; No. 3-C Allen, 600 feet; Superior Oil Co.'s No. 1 Giddings, 800 feet; The Texas Company's No. 5 Dunn, 725 feet; Thomas and others' No. 1 Patterson, 500 feet; Troutt and others' No. 1 Roe, 200 feet; Williamson and others' No. 1 Keller, 620 feet; Arkansas Fuel Oil Co.'s No. 1 Gaines, 1,500 feet; Cox and others' No. 1 Riordon, 200 feet; Moore and others' No. 2 Clark, 620 feet; Roth and others' No. 1 Welch, 540 feet.

Late Fields

(Continued from Page 49)

is The Texas Company's No. 2 Dunn, making 600 bbls. flush from the sand at 1,145 feet. The same company's No. 4 Dunn is making 300 bbls. from the pay at 1,141 feet.

Barkley and others' No. 5 Dunn is a 500-bbl. completion at 1,126 feet and the same operators' No. 3 Dunn 80 bbls. at 1,136 feet. J. K. Hughes Developing Co.'s No. 3 Arledge is a 200-bbl. well at 1,280 to 1,298 feet and the Humble Oil & Refining Co.'s No. 5 Dunn is making 240 bbls. at 1,122 feet.

McLester Oil Co.'s No. 3 Wooldridge is making 75 bbls. from the sand at 1,225 feet and Moorman and others' No. 1 Byrd 200 bbls. from the Croscut sand at 1,322 feet. States Oil Corp.'s No. 3-A Allen is a 40-bbl. producer at 1,118 feet.

In the Dibrell Pool in northeastern Coleman County the Midwest Exploration Co.'s No. 1 Dibrell is a new producer making 225 bbls. from the sand at 1,917 to 1,942 feet.

In Reagan County the Big Lake Oil Co.'s No. 51 University is making 3,470 bbls. from the pay at 2,850 to 2,886 feet.

In Throckmorton County the Red Bank Oil Co.'s No. 1 Parrot is flowing 360 bbls. daily from the deep lime formation at 2,926 to 2,946 feet. This well was reported showing for a producer a week ago. The Humble Oil & Refining Co.'s No. 1 Ledbetter, started for a deep test but which encountered a sand last week at 775 feet, is now estimated good for 15 bbls. in the shallow pay, at 3 feet in the sand.

In Archer County Cosden and the Consolidated Oil Co.'s No. 4-A Oldham is listed as a completion, swabbing 700 bbls. from the sand at 1,346 to 1,386 feet. Humble Oil & Refining Co.'s No. 7 Hamilton is swabbing 100 bbls. from 1,237 to 1,243 feet and its No. 2 Wolf is swabbing 300 bbls. from the sand at 1,338 to 1,357 feet.

In Wichita County Magnolia Petroleum Co.'s No. 54 Rio Bravo is making 100 bbls. from sand at 1,551 to 1,558 feet. In Wilbarger County McCamey and others' No. 34 Stephens is swabbing 90 bbls. from sand at 1,235 to 1,267 feet.

In Upton County Marland and others' No. 1 Noelke is flowing 300 bbls. of sulphur water at 2,270 feet and is shut down at 2,301 feet. Zoch and others' No. 1 Ruhmann is filling with sulphur water at 3,500 feet.

GULF COAST

HOUSTON, Tex., Apr. 13.—Sun Oil Co.'s No. 31 River in the Humble Pool is flowing 1,500 bbls. of 37 gravity oil at 3,232 feet.

MEXICO

TAMPICO, Mex., Apr. 10.—Mexican Eagle Oil Co., Ltd., has completed its No. 38 Cerro Veijo in the south fields good for 10,000 bbls. The tools tapped the pay at 2,133 feet. As there is some elevation here the subsea level, not bad for this district, is 1,926 feet. This lease is controlled jointly by Mexican Eagle Oil Co., Ltd., and the Huasteca Petroleum Co. (Standard of Indiana). The drilling operations are conducted, however, by Mexican Eagle Oil Co., Ltd., the latter company running the oil.

TOO LATE TO CLASSIFY

I HAVE blocks of acreage for drilling, also some offsets and close-in acreage in Lyon and Western Coffey County, Kansas, for sale. G. W. Moore, Hotel Tulsa, Tulsa, Okla.

CANE CREEK, UTAH, WELL REAL WILDCAT

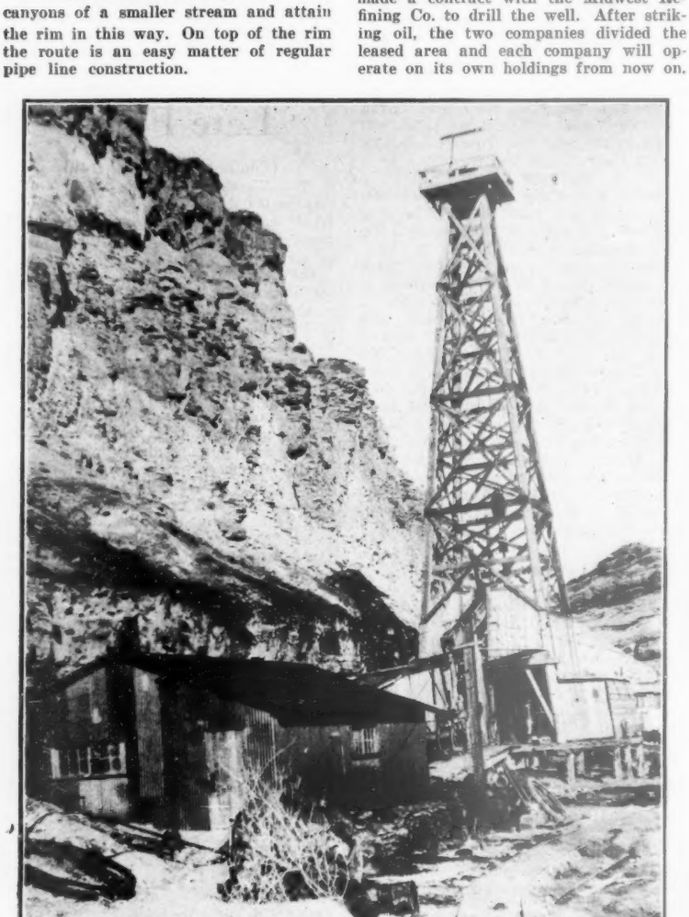
(Continued from Page 39)

canyons of a smaller stream and attain the rim in this way. On top of the rim the route is an easy matter of regular pipe line construction.

The discovery well of the Midwest Refining Co. and the Utah Southern Oil Co. is 2,035 feet deep. The Utah Southern Oil Co. leased the land and then made a contract with the Midwest Refining Co. to drill the well. After striking oil, the two companies divided the leased area and each company will operate on its own holdings from now on.

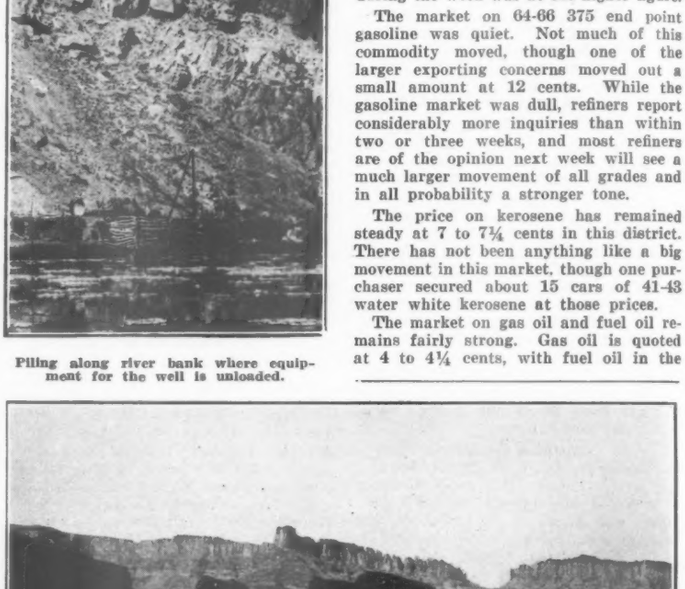
The formation is the Pennsylvanian. In Wyoming, this formation carries the Tensleep and Embar sands, but in Utah these two sands are not identified while the formation has thickened considerably. The sandstone forming most of the surface escarpments and the cliffs of the river canyons is the Wingate sandstone.

Recent explorations have shown many more structures back from the rim and down about 75 miles south of the Cane Creek well, the Midwest Refining Co. and the Elk Hills Oil Co. of Denver have leased a large area on what is considered one of the largest structures yet in the whole State. The Midwest Refining Co. is now preparing to move in material for a well there. As this big structure is mainly above the rim of the river canyon, a road can probably be built to carry the equipment.

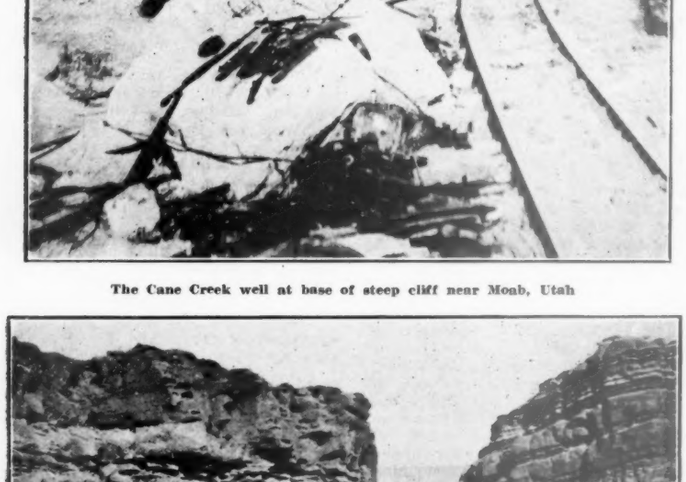


The Cane Creek well at base of steep cliff near Moab, Utah

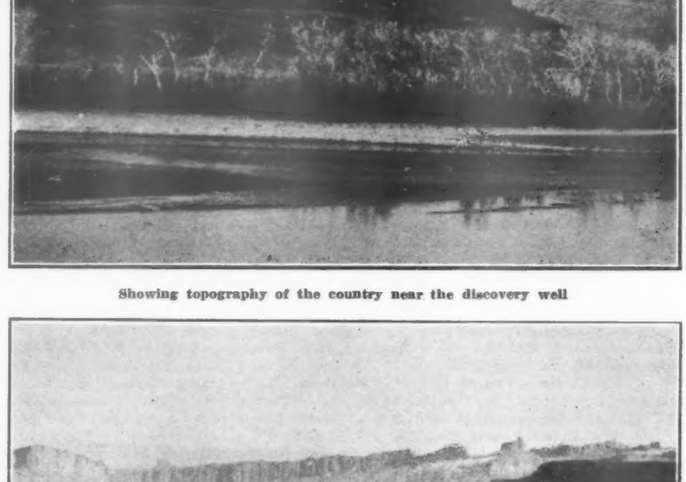
Piling along river bank where equipment for the well is unloaded.



Showing topography of the country near the discovery well



Geologists' camp in country near Moab, Utah



Another View of the country near the well

NORTH TEXAS MARKET SHOWS LITTLE CHANGE

FORT WORTH, Tex., Apr. 10.—There has been very little change in the position of the refined oil market in North Texas, though whatever changes appear seem to have a downward tendency. Motor is fairly steady at 10 cents. During the past few days there was a little changed hands at 9⅞ cents in the Wichita Falls territory, but practically all that moved during the week was at the higher figure.

The market on 64-66 375 end point gasoline was quiet. Not much of this commodity moved, though one of the larger exporting concerns moved out a small amount at 12 cents. While the gasoline market was dull, refiners report considerably more inquiries than within two or three weeks, and most refiners are of the opinion next week will see a much larger movement of all grades and in all probability a stronger tone.

The price on kerosene has remained steady at 7 to 7¼ cents in this district. There has not been anything like a big movement in this market, though one purchaser secured about 15 cars of 41-43 water white kerosene at those prices.

The market on gas oil and fuel oil remains fairly strong. Gas oil is quoted at 4 to 4¼ cents, with fuel oil in the

Wichita Falls district selling at $1.50 to $1.55 per barrel. The railroads are still in the market for some fuel oil and the demand from drilling operations continues heavy.

Taken altogether, the tone of the refined market in this territory does not seem to be any worse than a week ago. And with the demand steady and larger inquiries for gasoline, marketers and refiners are hopeful of a much better market with 10 days.

MANUFACTURING COKE HAS MANY PHASES

(Continued from Page 150)

stream begins to drop rapidly, the still bottom shows red. The stream is now cut to "gum" or "wax tailings," which is not allowed to pass through towers or condensers, but is run direct through the "gum line" to the storage container, and the firing is continued some 20 or 30 minutes longer until the still is coked. In some instances, the firing is stopped, the dampers and air inlets completely closed, and the residual heat in the setting is allowed to complete the coking. By this method the life of the still bottom is probably prolonged, but it is doubtful if the grade of coke produced is as satisfactory or as easy to remove as when the firing is continued up to the last.

In the operation of tower stills, the procedure at first resembles the operation of the simple crude still, except that the vapors pass through a heavy and an intermediate atmospheric dephlegmating tower where the high boiling fractions are dropped out and returned to the still through a valve controlled run-back line. The lighter naphtha fractions pass on and out of the second or intermediate tower and thence to the "light worm" or condenser. Modern practice is tending toward the replacing of atmospheric towers by closely controlled fractionating columns.

Coking in Tower Stills

Coking in tower stills, as in the case of tar stills, takes place some 20 minutes after "tailings" appear. The whole operation consumes about 40 odd hours, this interval varying with the nature of the crude, the design of the stills, the method of firing, and the cuts desired. The first tower stills were end-fired, coking being aided by burning the gas evolved directly under the still. On account of the difficulty of securing uniform heat, end-fired stills have largely given place to the side-fired variety placed two in a battery. Where coal is used for fuel, end-fired stills with built-in mechanical stokers have in recent installations met with great apparent success.

Still coke varies in thickness from 10 to 24 inches when running Lima, Kansas or Illinois crude in the type of stills described above. While several mechanical devices have been suggested to aid in removal, the process is still largely one of manual labor, using spud-bar and shovel.

In the comparison of the tar still and tower still methods, the following considerations are some of those which must be kept in mind. In the operation of tower stills greater care must be exercised in coking because of the larger area exposed; the frequent replacement of still bottoms of this size is a heavy expense, not only from the standpoint of repairs, but from that of idle equipment. It is possible to charge a tar still and make a safe run when the still is in condition that would be dangerous for a crude still. Moreover, the first cost of a tower still battery is higher and the operating labor cost higher than for tar stills. However, under proper supervision, many runs may be made without serious injury to the bottoms, and the increased labor and investment seems to be more than offset by the complete elimination of tar stills and their accessories.

Coke From Crackers

In the production of coke from cracking processes, the operations fall into two classes. First, those which make a comparatively short non-residuum run, making only gasoline or pressure distillate and coke, and secondly, those which produce gasoline, gas oil or recycle stock, and a low cold test, low viscosity heavy fuel oil together with a minimum amount of coke. Most cracking processes which operate on a continuous basis attempt to keep the formation of coke as low as possible, in order to get longer runs and to decrease the time and cost of cleaning. Some processes, however, which have difficulty in producing a marketable heavy fuel have found the production of coke the apparent solution of the problem of disposing of this residuum, and also obtain increased yields of gasoline.

Cracking processes of the batch pressure type are frequently run to coke or in any event produce a large amount of coke, these processes at the present time are the largest source of cracking process coke. These processes are usually carried out in shell stills or in stills of the "shell and tube" type and the coke is mostly deposited on the walls of the chamber in which the cracking takes place. It is generally soft and flaky and easily removed by hand tools.

Other processes operate on the "pipe still" principle. The oil to be cracked is pumped through heated pipe coils so designed that the oil velocity is high, thus preventing deposition of coke in the coils. The oil which has been cracked is passed from the coils to a large reaction or expansion chamber, where the carbon which has been liberated is permitted to settle. This chamber is away from the heated zone and therefore there is no danger of burning out the bottom. When this chamber becomes full the unit is shut down for cleaning. The time required to fill the chamber with coke varies all the way from two days to as long as three weeks.

For the removal of the coke from the chambers one process uses hand tools, while in another a mechanical device is employed to break up the coke and effect its easy removal.

Petroleum coke contains a higher percentage of pure carbon than any other form of commercial coke. Day's "Handbook of the Petroleum Industry" gives a typical analysis of a coke finished at 890 degrees Fahrenheit.

Volatile carbon	3.15%
Sulphur	0.97
Ash	0.15
	4.27%

Utilization of Coke

Coke finds a wide application in the manufacture of battery carbons, artificial graphite, and carborundum or any other purpose for which a particularly pure carbon is desired. On account of its low compressive strength, its use for metallurgical operations is limited. Within the last few years a market has opened up which may in time become the most important outlet for petroleum coke. Owing to the increasing difficulty of obtaining anthracite coal there is now a greater demand than ever before for coke as a fuel for domestic furnaces and boilers and for similar purposes where a smokeless fuel is desired and where the ash to be handled is wanted to be a minimum. Petroleum coke is an ideal household fuel since no particular skill is required to produce efficient combustion, and a winter's supply of coke gives only a bushel or two of ashes. It is necessary, however, to protect the furnace grates with firebrick in some cases, since the heat is intense. For hand-fired furnaces it is desirable to have the coke in large pieces for convenience in firing and to prevent the sifting of fine particles through the furnace grates. Coke made in shell stills from crude oil or tar is mainly in large pieces and for this reason usually brings the best prices. Coke from cracking processes is in general of a soft friable structure and not so desirable as a domestic fuel. Briqueting bids fair to overcome this objection, thus enabling the operator of a cracking process to get a larger income from his coké. It is questionable whether the additional cost of briqueting is not more than offset by the fact that coke can be made more cheaply in the cracking process than by other methods.

Heretofore, coke has usually been regarded by refiners as a necessary evil. The dry distillation coking process is expensive and hard on equipment, and the yield of coke obtainable is small compared to that obtainable from coal. The result is that coke has in the past seldom brought prices high enough to pay for the cost of production, and it has been necessary for the other products to absorb the loss. The trend in refinery practice seems to be in the direction of abandoning the practice of coking in tower and in tar stills, and to use other methods to obtain the products formerly made in this way. It is quite possible, therefore, that before many years most of our petroleum coke will be made by the cracking process; in fact some technologists are today urging refiners to run the bulk of their crude direct to the cracking plants and convert it all into gasoline and coke. A number of plants today are converting their heavy fuel oil into gasoline and coke. This procedure may raise the market price for fuel oil to a point where it will not be profitable to crack fuel oil unless the resulting coke can command an increased price.

The question of price will probably determine whether or not coke will continue to be manufactured from petroleum in important quantities. It is now possible for refiners to manufacture practically all products by methods which involve a minimum of coke formation, and it would hardly seem probable that a commodity which cannot be sold at a profit would continue to be produced intentionally. On the other hand, refiners may find it profitable to seriously consider coke as a valuable by-product, and to give considerable thought to creating a more widespread and general market for this ideal home fuel.

HAND PUMPS ON GRASS ROOTS WELLS

(Continued from Page 42)

been discontinued. This reduces the cost of a completed well about 50 per cent. Several years ago, some wells in the vicinity of Coffeyville produced as high as 19 bbls. daily in the Peru, or Wayside, sand after they were shot and six of the recent Marland wells have averaged 8 bbls. daily all together, since they were brought in without shooting.

Some Core Drilled

While most of the wells are drilled with machines, some have been put down with a diamond core drill outfit. The number of core drill holes that have been punched in this property can not even be estimated but the figure is considerable and the company should know all about the structural and sand conditions from a study of the cores. In a number of cases these core holes were tubed while in other core-hole locations twin holes have been put down with a machine.

The number of oil wells already drilled on this property is difficult to estimate because several of them have been capped temporarily while waiting for the production to catch up with the demand for pumps.

For the benefit of the curious, the exact location of this pool which is not destined to break the market this summer is in Sections 10 and 11, Township 35 south, Range 16 east, just north of the Oklahoma line.

The region in which this pool is located has had a colorful history. It is the cradle of the Mid-Continent oil industry, the first well ever drilled for oil in this part of the United States having been located in the next county to the west. It was part of the vast territory that T. N. Barnsdall had under lease at one time and was the scene of drilling operations for the past 30 years. A year or two ago it shared in the wild excitement and bitter disappointment of the Wilcox sand quest and now is the scene of experiments on the restoration of pressure.

PENNSYLVANIA MARKET REPORTED STRONGER

OIL CITY, Pa., Apr. 10.—Pennsylvania refined markets have been strengthened by advances in gasoline during the past week in some of the eastern states, especially by the increased tank wagon price announced by the Atlantic Refining Co. for Pennsylvania and Delaware.

Gasoline is much firmer in the Pennsylvania refining area than at this time last week owing to this higher tank wagon quotation. The demand for it has also improved. Actual consumption is being kept down some by the muddy condition of the roads.

Kerosene continues to be one of the strongest features. It is nearing the spring plowing season and it is expected the consumption of kerosene for this purpose will be large this year. The demand for kerosene is so great that it cannot be filled. One local refiner states that in all his experience he never saw such a spurt. A local refiner during the week tried to buy some Pennsylvania kerosene to help out one of his customers whose orders he himself was unable to fill and was not able to get shipment on any within 10 days.

Neutrals are strong and in good demand.

Cylinder stocks are not any better than they were a week ago and some of the refiners believe they are a little weaker. Wax shows some improvement and fuel oil is holding its own.

MAJOR J. M. REED DIES

OIL CITY, Pa., Apr. 10.—Maj. John M. Reed, aged 70, died this week after an illness of 10 days. He entered the Oil City Oil Exchange in 1879, and in 1888 formed a business partnership, a brokerage office, with George H. Cornwall and the firm of Cornwall and Reed was continued until 1912, when a seat was bought on the New York Stock Exchange. In 1884 Major Reed became clearing house manager of the Oil City Oil Exchange and devised a method of making clearances so satisfactory that he went to New York and inaugurated his system in the Consolidated exchange. The New York Stock Exchange, the New Cotton exchange and banks of New York City also adopted his clearance method. Major Reed was a director of the Manufacturers Light and Heat Corp., and was mayor of Oil City four terms.

This flow tank is located a long way from the well—as distances are figured in this pool.

Mid-Continent Rates Found Unreasonable By I. C. S. Examiner

By Charles E. Kern

Washington Bureau
The Oil and Gas Journal

WASHINGTON, D. C., Apr. 10.—Rates on petroleum and its products from the Mid-Continent Field, Indiana, Illinois and Wyoming to destinations in South Dakota will be found unreasonable and unduly prejudical, by the Interstate Commerce Commission in the case of the South Dakota Independent Oil Jobbers' Association vs. Atchison, Topeka & Santa Fe Railway Co. and others, if the report proposed by Alfred S. Knowlton, examiner, is sustained by the commission. The examiner recommended that a reasonable and non-prejudical basis be prescribed for the future.

In the same proposed decision rates from Montana to South Dakota are found to be not unreasonable as shown on the record filed in this case. The White Eagle Oil & Refining Co. was complainant in the case.

"The commission should find that the rates from the Mid-Continent fields, from Illinois, Indiana, and Wyoming points are unreasonable and in certain respects unduly prejudical," according to the examiner's report. For the future the rates from the Mid-Continent Field should be divided into three origin groups known as Kansas City Group 1, Kansas Group 2, and Oklahoma Group 3. Kansas Group 2 should take a differential 2 cents under Group 3. The Kansas City group should take a differential of 8 cents under Group 3 when applied to points in South Dakota east of the Missouri River, and 7 cents to points west of the river. The following rates arrived at by taking ton-mile earnings of approximately 14 mills and applying these earnings to the distances from Tulsa, as typical of Group 3, will establish a reasonable and non-prejudical basis for the future. Specific rates to typical destination points are prescribed as follows for application from Group 3:

	Cents
Elk Point	40
Yankton	43
Mitchell	48
Aberdeen	57
Mobridge	64
Newark	58
Huron	51.5
Pierre	60
Watertown	52
Rapid City	69
Murdo	58

HARRELD-HASTINGS BILL LAW

WASHINGTON, D. C., Apr. 12.—The Harreld-Hastings bill to quiet title to lands of the Five Civilized Tribes became a law when President Coolidge signed it today.

REFINERY SAFETY PLAN EXPLAINED BY EXPERT

(Continued from Page 148)

set between him and the company of which he expects to become a part. General policies of the company, including insurance, vacation and its other plants, are pointed out to him and interpreted to him. The nature of the work for which he is being employed is outlined to him; possible opportunities for development and advancement are pointed out; and every possible existing wrinkle between the worker and the company is ironed out from the start so that there may be no future misunderstanding of the labor contract between the worker and the company, which is so important in the interests of maximum efficiency. The breaking of step in the industrial ranks can largely be attributed to the lack of clarity between these two parties when forming a labor contract.

"When a number of applicants are being interviewed and waiting is necessary, those awaiting their turn are furnished with reading material, company publications, etc., and have also an opportunity to view exhibits in the safety museum which is a part of the employment department. The item of industrial safety is explained to them with emphasis, in a group meeting after the personal interviews have been completed.

"By this time there will have been a decision reached on the part of both the employment supervisor and the applicant regarding the completion of the labor contract which has been begun. It is foolhardy for an applicant to become associated with an organization whose policies he is not in accord with, and it is equally detrimental for a company to endeavor to make a part of it a worker whose mental attitude is out of balance with its concern.

"Assuming that the agreement is mutual, the applicant is next turned over to the physician of the plant who verifies the physical selection of the employment supervisor. These physical examinations are carried on in clinics which are of the most modern type and whose equipment is up to the last minute. The purpose of the physical examination is not simply to check the new timber coming into the work force and to place applicants in positions that they are physically unable to handle, but also to point out to the new employe certain minor physical defects which may be existing and to recommend practical measures to be taken toward their correction. If heeded by the applicant, which invariably is the case, this can do nothing other than constantly improve the physical side of the work force that goes to make up the company."

REFINERS OF GASOLINE AWAIT BETTER DEMAND

(Continued from Page 38)

season when ordinarily these prices reach their peak.

The general opinion seems to be that from now on the price of these products will hinge more on the gasoline demand than on any other factor as has been the case in the past. The greater the gasoline demand, the greater the call for cracking stock, and the greater the development of cracking the less fuel there will be.

This is in line with some of the discussion at the annual convention of the American Oil Burner Association at Detroit last week in which fear was expressed that cracking needs were rapidly diminishing the available supply of fuel for oil burners and that that industry was facing an economic crisis.

On the other hand, it has been brought out in Government figures that the increased efficiency of cracking has boosted the production of gasoline to such an extent that at present there is a great oversupply of motor fuel. This is not particularly encouraging to greater demand for cracking stock, considering low gasoline prices, unless runs of crude to stills are reduced far more than they have been.

Gasoline and Naphtha

The one immediate encouragement in the gasoline situation Tuesday was the clearing up of the weather and favorable predictions for the week. However, so far this has not been reflected in increased orders and market students have been surprised that prices have held as firm as they have.

The U. S. Motor (58-60 437) gasoline was holding fairly firm at 10 cents. A few concessions were reported but what few orders came in did not hesitate at the 10-cent price. A few refiners continued to quote 10¼ cents to the trade but this price was not attractive.

Only scattered purchases of higher gravity gasolines for export were made as exporters were reluctant to pay quotations asked by refiners. The 60-62 400 grade was available slightly lower than last week at 11 to 11¼ cents but there seemed to be no change in the 64-66 products. One exporter purchased some 64-66 under 12 cents but it was known that the product might be slightly off as to corrosion tests.

Other gasolines and naphthas also were inactive. Naphtha sellers admitted they were receiving no inquiries and markets at 9 to 9¼ were more or less nominal.

Natural Gasolines and Blends

The price trend of natural gasolines continued downward but the general situation was unchanged. The A grades were offered at 9 cents; B grades at 8 cents and C from 7½ to 7¾ cents. There does not seem to be a great supply of natural gasoline on hand but on the other hand manufacturers are having difficulty in moving what they have. Blends were at a standstill. The declining prices of straight run products has not been encouraging to the demand of blended products, the manufacturers explain.

Fuel Oil and Gas Oil

As previously mentioned there were no developments in the fuel and gas oil situation. All these products remained strong although it is past the season of domestic consumption. Prices, which are at last week's high level, were unchanged by Tuesday. Jobbers and other such buyers, however, would not buy for anything but immediate shipment but this was only to be expected with the season of domestic consumption likely to end at any time. Some gas oil was reported bought at 4 cents but this was believed to have been an accommodation to the buyer as others could not buy even at low market quotations of 4¼ cents.

Kerosene and Distillates

Kerosenes still maintained their strong position recovered a week ago after a brief period of easing up. The 42-44 water white grade Tuesday was not available under 7¼ cents except in rare instances. This was an advance of an eighth of a cent over the market of a week ago. The 41-43 water white product was offered only in small lots at low as 6¾ cents with the trend toward 6⅞ cents. Distillates were unchanged in their strong position.

Lubricants and Wax

An improved tone was apparent in the lubricant situation which has been extremely unsettled for some time. While a few monufacturers were quoting as much as 2 cents lower than others, the price structure seemed to be on a steadier foundation.

Inquiries for wax also increased during the week but Oklahoma manufacturers were not in a position to offer much of the product. The inquiries offered 4⅞ and 5 cents.

QUANTITY DISCOUNTY PRINCIPLE APPROVED

(Continued from Page 40)

discount system frowned on by the convention was the practice of some companies in offering contracts to farm bureaus or other collections of individuals. It was pointed out that this had done more than any other thing to demoralize markets for the independents, as these contracts appealed to the classes and sections where independents had been the strongest.

Whether this practice showed discrimination was open to discussion. It was pointed out that these contracts were not for large customers but rather gave cut rate prices to individual small buyers, and that only members of these certain groups had the opportunity of availing themselves of this cheaper gasoline.

Margins Discussed

Margins also were up for discussion when Mr. Nicholas pointed out that the day of large margins was over and that the independent marketer and jobber must learn to operate his business efficiently and on small profits per gallon.

Another matter which aroused considerable interest during the convention was the complaint of Wisconsin jobbers that a certain Mid-Continent refiner was demoralizing market conditions in Milwaukee by offering direct from its own stations a higher gravity gasoline for the same price as U. S. Motor gasoline in competition with jobbers selling the latter product or a lower grade.

The refiner, who was present in person, explained his position in that he would sell any jobber who wished it the same grade of gasoline at U. S. Motor gasoline prices, and that he was not trying to compete with the other jobbers in a discriminatory or unethical way.

However, following a conference with a committee chosen by the association he volunteered to take the proposition up with other officers of his company and try to work out the proposition satisfactorily to all concerned.

The closing sessions of the convention, following the dropping of the quantity discount question, were given over to discussion of the work of the various departments of the association by the department heads.

Lubrication Department

The association only recently established a lubrication engineering department with J. R. Hunt, formerly of The Texas Company as director. Mr. Hunt explained that one of the objects of the department now is to establish uniform lubricating oil specifications for all members of the Independent Oil Men of America, an organization affiliated with the National Petroleum Marketers Association. Under the plan, all lubricants sold by any member of this organization in any part of the country would be of the same specifications to compete with widely advertised trade marked oils.

J. R. Battle of Philadelphia, Pa., also an expert along this line, talked to the association on lubricants and methods of conducting the lubricating department of the association.

Other department heads on the program were Weston Atwood, director of the collective buying bureau; Raymond Shaw, director of advertising; J. L. Murray, head of the department of markets, and Frank J. Silsbee, assistant to the president.

The association members were much interested in the national advertising campaign now under way by the Independent Oil Men of America, as explained by Mr. Shaw. This campaign was termed the greatest movement ever undertaken by the National Petroleum Marketers Association. Mr. Shaw illustrated his talk with stereopticon views of advertisements which have appeared in nationally known magazines and of proposed advertisements to be printed in the near future.

Considerable stress was placed on the meaning of the Independent Oil Men of American and the products its members sell. It was explained that only members of this particular branch of the National Petroleum Marketers' Association were entitled to sell their products under its emblems and any violation of this would be severely prosecuted in the courts.

Mr. Silsbee is the latest addition to the official staff of the association, his present duties now being to promote a better feeling between the public and the independent petroleum industry.

Resolutions were passed at the convention paying tribute to A. H. Caward of Waterloo, Iowa, a director of the association who died recently in Kansas City, Mo. Mr. Caward had been one of the pioneer members and builders of the association and one of the leading independent jobbers in the country.

The next convention city was not selected at the Chicago meeting but instead was left to the discretion of the president. Mr. Nicholas said that in all probability he would select an eastern city.

The only formal entertainment feature of the convention was a dinner-dance given at the Congress Hotel Wednesday night.

State Executives Club

Problems dealing with the management and operation of state oil men's organizations were discussed from every angle at a meeting of the State Executives' Club at the Congress Hotel, Chicago, April 6, 7 and 8.

The sessions of this club, while entirely separate, were held in conjunction with the convention of the National Petroleum Marketers' Association on the same dates.

Nearly every state association was represented at the meeting either by secretaries or presidents, or both. They represented a geographical area from Massachusetts and South Carolina on the east, to Kansas and Nebraska on the west, and from Mississippi and Texas on the south to the Dakotas on the north.

It was unanimously decided to hold the

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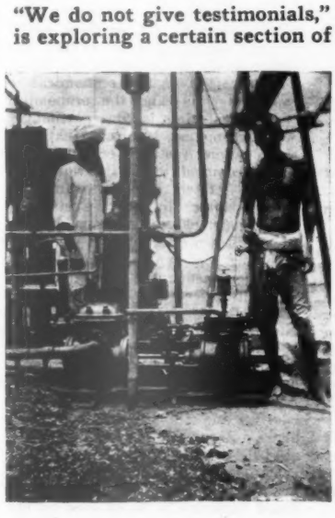
"We do not give testimonials," said the oil company which is exploring a certain section of Borneo,—"but we are ordering a second Sullivan Core Drill just like the first."



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next meeting of the club at Chicago next August in conjunction with Northwestern University's summer course of instructions to association secretaries.

Among the speeches delivered at the meeting were: "How to Get and Hold Members," by Paul E. Hadlick, secretary of the Minnesota association; "How Legislation Has Been and Can Be Accomplished," by Charles M. Sutherland of the Nebraska association; "What Co-Operation Can We Expect From Refiners," by Mr. Sutherland; "Membership Dues," by George S. Allee, secretary of the Missouri association; "How to Interest Members in Meetings," by James A. Gilmore, secretary of the Michigan association, and "Gasoline Tax and Inspection Laws," by W. C. Hughes, secretary of the Ohio association.

In connection with the discussion of "Co-Operation With Refiners," by Mr. Sutherland, Howard Bennette, managing director of the Western Petroleum Refiners' Association, unexpectedly attended the meeting and gave a few remarks on the refiners standpoint.

James A. Gilmore, secretary of the Michigan association, is president of the club.

BUSINESS CONDITIONS IN REGARD TO OIL INDUSTRY

(Continued from Page 40)

erally our biggest customers for raw and finished materials, combined with comparatielyv high prices and large production, here, helped by plentiful credit, —or money,—has, on the one hand, restricted foreign buying of American goods, and on the other, induced them to produce goods to sell in America. A tendency toward lower exports and increased imports has been noticed, but it is not yet certain how far this will go. If it continues, it ultimately will cause gold to leave the United States in payment of the balance owed abroad on commodities sold by foreign companies here in excess of the value of goods sold to them.

The United States is the one consuming nation where there is a big market for foreign goods, and cheap labor abroad, together with liberal credit extended them for the purchase of raw materials, would normally aid them in underselling the American market in many lines.

If gold begins to leave the United States at a substantial rate credit will have to be contracted.

Installment Buying

Installment buying of numerous articles, including automobiles, radios, furniture and so forth, is now widely discussed by leading financiers. This is a form of credit, of course, and is sound so long as it is extended in reasonable amounts to those who are able to and do pay the installments as they come due. The receipt of the installment payments is absolutely essential, or credit all along the line is adversely affected.

Production

During the first three months of 1926 output in many major industries was at a record rate. Included in these industries was the steel, motor and building trades. Record production has been based principally on orders actually received at the factories. Although intrinsically this condition is healthy, rather than otherwise, as labor is well employed, it indicates, in the opinion of some, a tendency on the part of those placing the orders at the factory to anticipate the largest possible demand.

How Petroleum Compares

The petroleum industry varies fundamentally from other industries in many respects. Yet petroleum is so generally used now that the prosperity of the industry must bear some direct relationship to changes in underlying business conditions. In other words, the petroleum industry must inevitably receive the force, sooner or later, of general business prosperity or depression.

This effect must express itself in the rate of consumption of petroleum products, and therefore the price of petroleum products. Beyond this, however, the oil industry stands out among others as the Rock of Gibraltar.

The oil business is conducted intrinsically on a cash basis. Credit is used only sparingly, and is usually for short terms.

Gasoline, the principal oil product, representing at least 50 per cent of the value of all oil sales, is sold from day to day for cash, for the most part. The cash, in the majority of cases, passes from consumer to the producer without going through any other hands, inasmuch as most of the large producers of gasoline operate their own service stations. And this is getting to be more the case every day.

In many large industries, the bank extends credit to the manufacturer, who extends credit to the wholesaler, who extends credit to the retailer, who often extends credit to the consumer-buyer through installment selling.

If there is any installment buying of oil products, it certainly is not large enough to warrant serious consideration.

So far as production is concerned, the oil industry has exercised caution this year. There is an undoubted tendency now, however, toward increased production of gasoline, if not of crude oil.

Special Factors

Of considerable importance from the point of view of the future of any business is the trend toward use of new products or inventions, and the discarding of the old. This is something the oil business especially has had to deal with throughout its history. Kerosene was, as everyone knows, the chief product of crude 40 years ago, at which period gasoline was practically a waste product.

Present tendencies worthy of study in the oil business include the growing use of the Diesel engine and home oil burner, on the one hand, and the move to discard the use of fuel oil in place of coal under boilers to generate steam.

Must Face Facts

The maintenance of a fair degree of stability in any industry depends to a great extent on the ability to keep abreast with changes in that industry or changes outside which might affect it. Discussion of developments which might have a bearing on oil consumption, although they may seem not to affect it directly, is recognized as having beneficial results, and oil executies are developing the habit more and more, and finding it of direct help in laying out sales and production schedules. Hence, the survey of present business tendencies contained in this article. The oil industry must not only guard itself against overproduction. It must also be prepared to meet any emergency demand that might conceivably arise.

OIL BURNERS ARE SIX CYLINDER HEAT

(Continued from Page 41)

judgment. It may, eventually, cost more to use, and it will be worth more to us.

Ashless Fuel

The ashless fuels burn inside of an engine; thus we have automotive transportation,—transportation on wheels directly from a fire in a cylinder—the most revolutionary and important thing in modern times. The ashfull fuels burn outside the engine; make steam, and does the work. The presence of the ashes requires two operations instead of one. The householder's problem, therefore, is whether he wants to carry in and carry out the ashes when he heats his house.

The householder has already determined that question when he bought a six-cylinder automobile. He may not know it, but he has determined it. He prefers to pay 10 to 20 cents per mile, of which only 10 to 15 per cent is fuel cost, for travel without ashes, rather than pay far less for transportation with ashes. The owner of that six-cylinder car can go 26 miles in the subway for a nickel. He declines to do so unless he has to. The same reasoning, the same impulse, the made modernity will convince him that ashless heat is as justifiable a part of his domestic economy as his transportation. Unless he places the heating of his house, the comfort of his family on a plane comparable with the comfort he gets out of his six-cylinder automobile, he ought to keep on carrying out the ashes. The costs of running his furnace and of running his car will not be the same, but the underlying considerations affecting the fuel supply are the same. The oil-burning furnace is six-cylinder heat.

Under present circumstances, the furnace oil for heat in the basement costs less per gallon than gasoline for heat in the car. But the material used in the basement is potential gasoline. The furnace oil contains residues that are not useful in an automotive engine. But by cracking, the refiner can put the gasoline in one pile and the residues in another. Because the relative demand for furnace oil is not now so great as for gasoline, and as furnace oil does not require as great refining expense as gasoline, and is delivered in comparatively large quantities, it now costs less than gasoline. This will probably continue for an indefinite period, but in the future it is probable there will be a closer relationship between the two than there has been in the past.

"Steak Out of Hoofs"

The whole barrel of oil is liquid fuel for some purpose. An engine of the Diesel type will chew it all up and ask for more. A Diesel engine is too heavy, too complicated for an automobile engine. Therefore, the refiner was up against the problem of making a motor fuel out of the whole barrel of oil. And he has solved it. If the packer had the ingenuity of the refiners he could make porterhouse steak out of the hoofs and horns. So that now the depth to which the refiner will cut into the barrel of crude for motor fuel, for furnace oil, and for all other products, will be determined by the consumer's demand. The consumer finally will decide the relative value of the various ashless fuels.

We come, therefore, to the final problem of whether the probable supply of ashless fuels will be so small as to discourage consumption. And here again we come back to the automotive engine. Putting the problem in practical form, it amounts to this:

A householder who has made up his mind that six-cylinder heat in his home means as much to him as six-cylinder transportation ought to be as alarmed about the supply of furnace oil for his oil burner as he is alarmed about the supply of gasoline for his automobile.

In judging of the probable supply of motor fuels, one must keep in mind a few fundamentals. First, petroleum from wells is not the only probable source of liquid fuels. They are in wood, as sawdust produces alcohol. They are in coal; they are in shale oil; they are in lignite.

Possibilities in Coal

For example, H. L. Horning, president of the Society of Automotive Engineers, in speaking of motor fuel from coal, recently said:

"* * * coal is the most promising of all our sources of raw material. By this I do not expect the well-known aromatics derived in the usual distillation to be the source of coal fuels, but on the contrary, I expect developments in chemistry within the next decade to show us how to convert coal directly into motor fuels as primary products and with valuable by-products. There probably exists today suppressed, known, or awaiting developments, facts which constitute the very basis for this great step. I am absolutely certain that organic chemistry could solve this in little time. When these changes will come about depends on economic causes and not for want of scientific ability. Economic changes will always lag way behind scientific achievement."

What, therefore, has the race to work on? The report of the committee of eleven of the American Petroleum Institute, summarizing resources from which motor fuel may be derived, stated:

"Petroleum recoverable by present methods of flowing and pumping from existing wells and acreage thus proven consist of five billions, three hundred million (5,300,000,000) barrels of crude oil.

"It is estimated that after pumping and flowing there will remain in the area now producing and proved twenty-six billion (26,000,000,000) barrels of crude oil, a considerable portion of which can be recovered by improved and known processes such as flooding with water, the introduction of air and gas pressure and mining, when price justifies.

"The major oil reserves of the United States lie in some one billion, one hundred million (1,100,000,000) acres of lands underlain by sedimentary rocks, and not fully explored, in which geology indicates oil is possible. With extended search new supplies will be found therein.

"The nation has an additional reserve in the vast deposits of oil shale, coal and lignites from all of which liquid fuel and lubricants may be extracted if and when the cost of recovery is justified by the price of these products. These deposits are so huge that they promise, under conservative estimates, an almost unlimited supply."

The committee in its report did not attempt to predict prices. In one of its conclusions it stated:

"Current supply and demand cannot stay in balance, since the amount of both supply and demand are constantly changing. Generally, current supply will exceed or be less than current demand, creating surplus or shortage; either condition will be reflected in price, but price will in time correct either condition."

Price Fluctuations

The consumer of petroleum and its products, whether for house heating or for automotive operation, must expect fluctuations in price, as he expects them in other commodities. In considering the probable future price of furnace oil, he should bear in mind that owing to its superior utilities he can afford to pay more for it than he has been paying. The expansion in its use and in the use of motor fuels carry prices to higher levels. It seems apparent that it will unless production costs are greatly reduced. In looking at the whole situation he can gain comfort from the fact that during the last three years gasoline prices were at about the 1913 level, whereas anthracite prices were double what they were in 1913.

In conclusion, the vexed and much debated question what oil should be used for, and what are its superior uses, is one that I do not attempt to pass upon, for it primarily is the consumer's problem. No matter what the oil burner manufacturer does, no matter what the oil producer or refiner does, under our present organization of society the consumer holds in his hands the key to the determination of the economical use of raw materials—and the economical use of raw materials is conservation.

An economist has said that by price the consumer casts his economic vote.

The commodities of the world are candidates. Each has its manifold uses. The consumer by price elects goods to their proper offices. A commodity adapted to being town crier is never elected mayor. Knowing his own mind, and with unerring judgment, the consumer pursues through price the economic initiative, referendum and recall. He votes every minute. He changes his politics hourly, his mutations are the essence of economic wisdom. Commerce is democracy. And democracy meets each day as it did at Athens. Its constitution, its laws, its legislative and its judicial power are all made, interpreted and enforced by a single ballot—price.

Of course, if the conditions surrounding the production and consumption of liquid fuels are to be effected by changes in laws, the thing most apparent is that no changes will be made unless they are such as meet with the consumer's approval. The consumer will determine your destiny and ours and the laws, whether economic or legislative, under which you and we shall operate. As near as one can forecast the future, it would seem that the comfort and convenience of oil burning in homes will stay with us in some form as long as people are willing to pay for, and use extensively high-powered automobiles.

True Counter Current Flow—Heat Exchanger Tube Element With Tubes in Upper Half Removed

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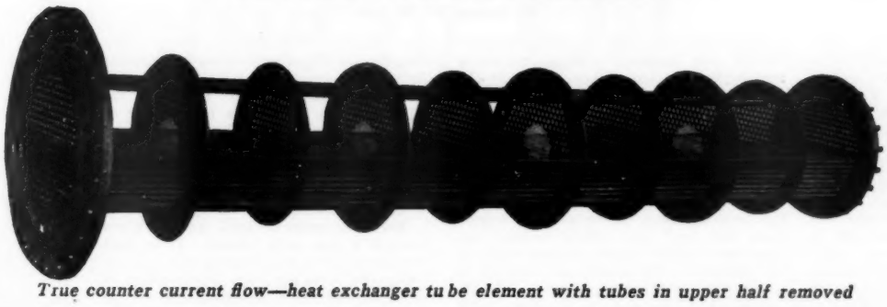

True counter current flow—heat exchanger tu be element with tubes in upper half removed

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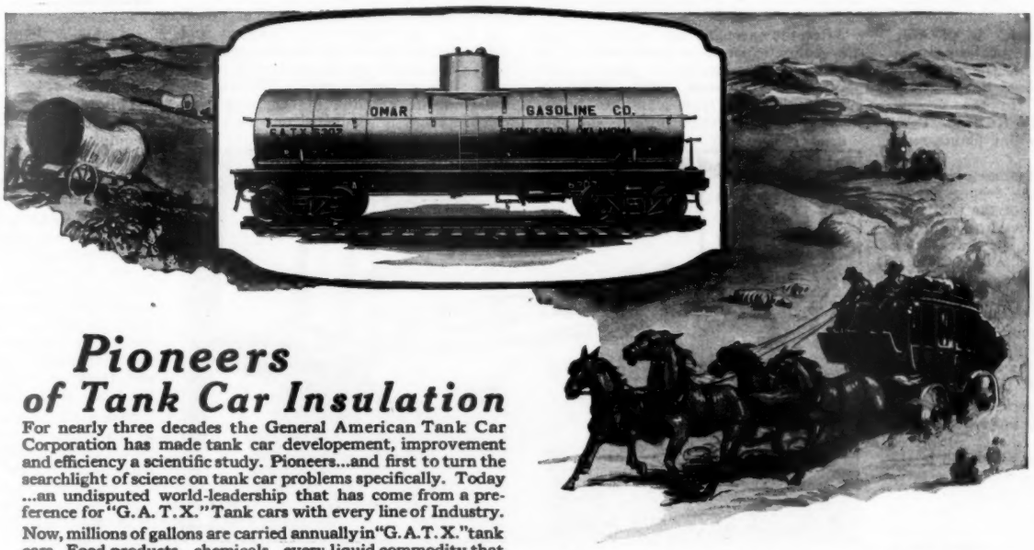

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Device Regulates the Flow of Gas

Plates in Absorbers Regulated in Line With Operating Requirements. Adds to Flexibility of Operation of California Plant

By George W. H. Reid

The West Coast Refining Co., operating an absorption gasoline plant (Figure 1) located in the approximate center of the Placentia-Richfield Field of Orange County, California, has recently completed the installation of the latest type of Newton absorption plants. The location of this plant is proving especially advantageous as the Richfield Pool, instead of undergoing extension of the producing area, promises to become additionally prolific in that production is being secured from a deeper pay sand, and at present there is a marked tendency on the part of operators to redrill the entire field to this lower level. Production from the so-called shallow sand is found at about 3,000 to 3,300 feet, while the deeper drilling finds production at around 4,500 to 4,800 feet. As the company owns its own gathering system for handling gas to its plant, the new production involves only short lines to new wells connecting them to the present gathering lines. In the Richfield Pool, there are only three gasoline plants serving the entire district.

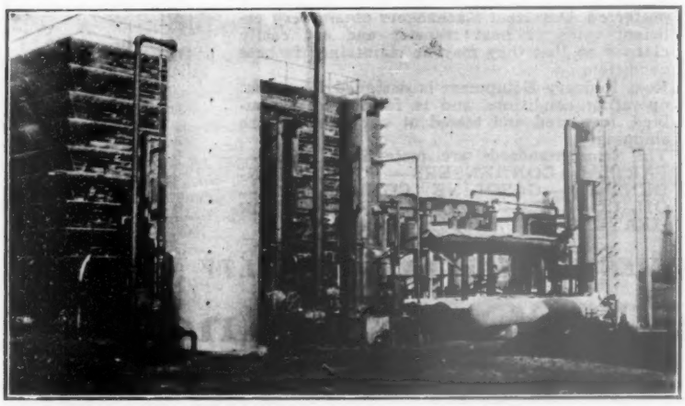

Fig. 1—General view of the absorption plant of the West Coast Refining Co., located in the Richfield, Calif., oil field.

It is said that the gasoline content of the gas derived from the deeper pay is slightly higher than that of the shallower sand and also that the crude production is of better quality from the lower sand. An additional advantage in this field is the fact that it is not necessary to pull a vacuum on the individual wells, and at the booster plant on the company's location, the vacuum is only seven inches. The compressor plant gathers the gas from points in the field as far as 2 miles distance from the plant.

The booster or compression plant consists of two 165 horse power and four 80 horse power Clark direct connected compressors. The gas is conducted to the compressors after passing through a large scrubber, and boosted to absorption plant operating pressure which is about 30 pounds. Then the gas is conducted through cooling coils and a second scrubber tank from where it flows into the absorber tower.

Air Compressors

Some interesting features are found in the compressor plant. The water for cooling engines, etc., is circulated by six Gould centrifugal pumps which are driven by direct connected Lee steam turbines. Auxiliary pumps are provided. Another feature of interest in its unusual application is the installation of Westinghouse locomotive type air compressors for supplying a constant supply of compressed air for use about the plant. This air is used in controlling automatic valves and for starting the large gas engines. The compressors have been in uninterrupted service for several months, requiring very little attention. They are set at 180 pounds pressure and maintain this pressure constantly.

Operating independent of the compressor plant and absorption plant is an Ingersoll-Rand two-stage compressor, Imperial type, 75 horse power, which picks up the light vapors off the storage tanks, the condenser coil vapors and the vapors from the tank cars while loading and compresses these vapors, sending them on to condenser coils where the gasoline is condensed and taken to storage. The incondensable vapors go to lean gas lines. The one auxiliary compressor installation has proved to be a very profitable investment for the company.

After the incoming gas passes through the cooling coils it is conducted to the Newton type absorption plant. This plant is of the latest design, being the first of the new type plants to be installed. The absorption tower is equipped with the adjustable plates which regulate, or make variable, the size of the orifice through which the gas must flow, and in this manner the tower is adjustable to operation conditions at the will of the operator. Thus the rigidity of the absorber is eliminated and the desired flexibility obtained. The equipment is outside of the absorber making it easily accessible for adjustment while the plant is in operation.

The application of this feature of controlled adjustment of orifice to the bubble tower of the refining industry would be of great benefit to the refining operators for then the bubble tower would be adjustable to the volume of crude oil being distilled, and thus, possibly, overcome the only objection of serious importance to the bubble tower operation—that of its inflexibility.

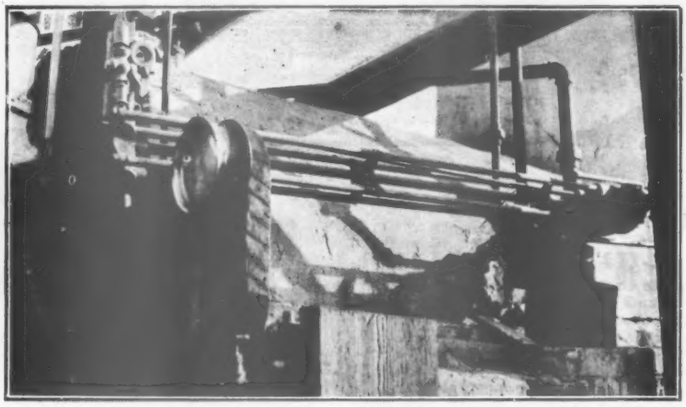

Fig. 2—Boiler feed water control.

Method of Operation

The lean absorption oil is conducted to the absorbers, after being settled in a three-compartment tank and strained through a fine mesh screen. It is then conducted through a cooling coil and entering the absorber at a temperature of about 65 degrees Fahrenheit. Here the oil and gas meet in intimate contact the dry gas passing out to be returned to the field, and the enriched oil conducted to the fat oil tank. Here the mechanically entrained gas is liberated and eliminated. The liquid is held at a constant level in the fat oil tank by a Fisher kidney controller, and from this tank the rich oil is pumped to the first of the three heat exchangers. The partially heated oil leaving the first exchanger is split into two streams the smaller stream being conducted to the dephlegmator where it acts as a temperature control medium. This flow is regulated and controlled by a Tagliabue Peerless automatic temperature controller. The compressed air is furnished this instrument from the Westinghouse locomotive type air compressor as previously described. The streams of oil are again combined as they enter the second exchanger, and are conducted into the third exchanger of the series.

From the exchangers the rich oil enters the preheater, where it is further heated by live steam to a temperature of about 328 degrees Fahrenheit. At this temperature the gasoline vapors are just ready to leave the oil. Entering the top compartment of the evaporator or blending still, the vapors are liberated and conducted outside of the evaporator, down to the bottom of the blending still (evaporator) to enter it again. The oil, denuded of its gasoline in the uppermost compartment, is conducted outside of the top compartment, down through a gooseneck, to be discharged into the still again in the second section, close to the top. From here the oil overflows from one section to the other, through the devices peculiar to Newton equipment, while the upward flowing gasoline vapors are being scrubbed and blended, in counter-current flow, as the vapors rise in the still.

Steam coils at the evaporator base keep the accumulating oil in constant agitation. The plates, or orifice control of the evaporator (blending still) are adjustable to the load in the same manner as the absorption tower. The gasoline vapors leaving the blending evaporator are conducted to the dephlegmator, then to condenser coils and storage. The reflux or dephlegmator condensate is returned to the fat oil tank.

The hot lean oil from the bottom of the evaporator passes through the heat exchangers and then on to the fat oil tank.

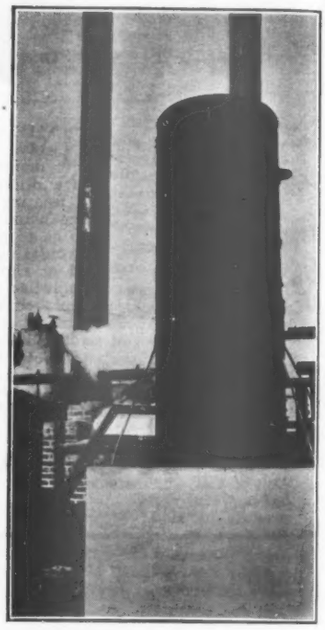

Fig. 3—Blow off drum device.

This installation is operating smoothly and efficiently. The one absorber and blending evaporator have a capacity of 15,000 gallons of gasoline daily.

Cooling Tower

All cooling and condensing on this plant is done in open water sprayed coils. These coils are made at the plant. They are welded, having welded return bends, 2-inch in size, and constructed in sections or banks of six, or 240 feet in each bank. The coils are so manifolded that any one bank or section may be out of service for repair without interrupting plant operation and are so constructed and installed as to be easily accessible for removal or cleaning.

Steam for power and heat is provided by horizontal return tubular boilers. The company has installed boiler feed water regulators (Figure 2) on the water inlet line which provides a constant water level in the boilers. The device works on the expansion and contraction principle, a brass tube being the controlling feature. When the water is low in the boiler, steam enters the brass tube causing it to expand, which expansion opens the control valve permitting more water to enter the boilers. When sufficient water is conducted to the boilers the brass tube, being cooled by the water entering it, contracts and cuts off the water supply. The feed water pump is thus held at smooth operation, for the feed water controller maintains the correct water level in the boiler at all times. The device has been in service for some months and is performing very satisfactorily.

Another device of interest is the boiler blow-off equipment (Figure 3). It is often the case that certain restrictions

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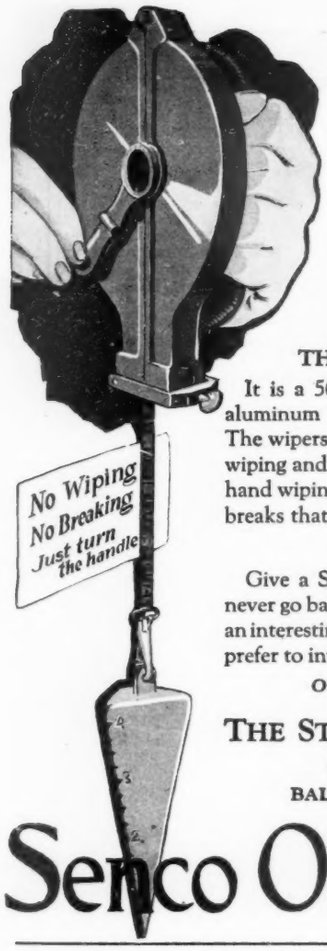

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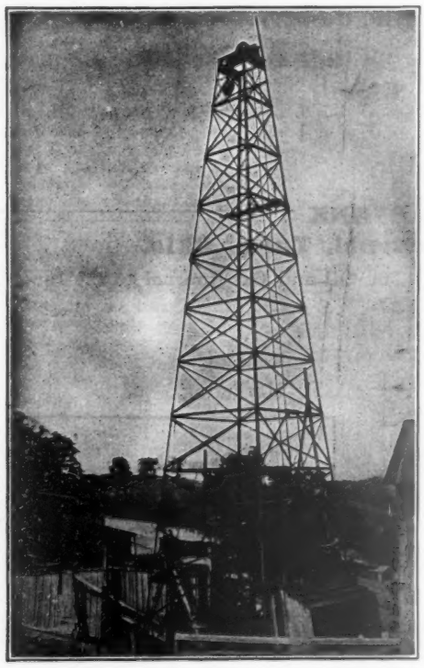

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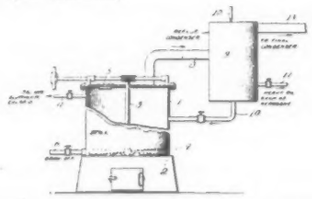
are in force permitting no waste water, etc., to leave the yards of industrial plants, especially blow-off material and substance. In this instance the company designed a blow-off tank to take care of this waste material, saving the water and returning it to the cooling pit. A concrete pit was constructed in which an old boiler was upended. The blow-off lines enter this cylindrical drum laterally at an angle to the side of the drum. When a boiler is blown off the steam and water entering the device is given a whirling line of travel, the action dropping the water to the bottom, and the steam leaving through a small outlet provided at the top of the cylinder. A constant level of water is maintained in the concrete pit or base, by placing the overflow line about a foot above the tank or drum bottom. As the water accumulates it flows through the overflow line to the cooling pit and is thus reclaimed. Sludge is removed periodically from the control pit.

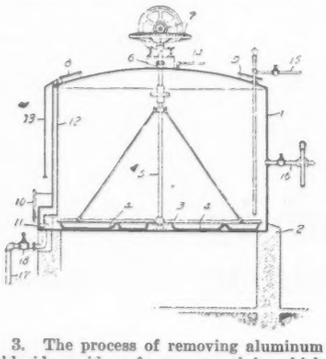
Recent Patents

1,578,050. Process of Distilling With Aluminum Chloride. Almer McDuffie McAfee, Port Arthur, Tex., assignor to Gulf Refining Co., Pittsburgh, Pa., a Corporation of Texas. Filed Jan. 20, 1922. Serial No. 530,581. 7 Claims. (Cl. 196—54.)



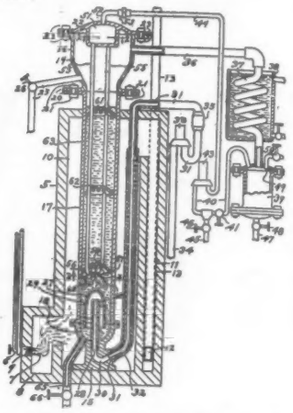
1. In the lowering of the boiling point of petroleum oils by distilling the same in the presence of aluminum chloride, the process which comprises partially cooling the vapors to condense out aluminum chloride and kerosene, separately condensing and collecting vapors of petroleum oils having boiling points below that of kerosene, separating the aluminum chloride from the kerosene by settling, simultaneously returning the aluminum chloride to the still and separately removing the collected kerosene.

1,578,053. Process of Removing Aluminum Chloride Residues From Stills. Almer McDuffie McAfee, Port Arthur, Tex., assignor to Gulf Refining Co., Pittsburgh, Pa., a Corporation of Texas. Filed Dec. 13, 1923. Serial No. 680,512. 13 Claims. (Cl. 196—1.)



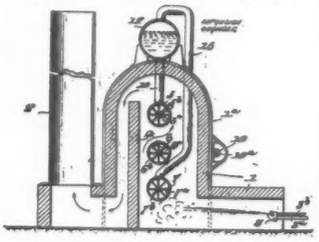
3. The process of removing aluminum chloride residues from a vessel in which aluminum chloride has been used for catalytic treatment of petroleum hydrocarbons, and in which the residues are in the form of a caked mass, which comprises wetting such mass with water to disintergrate it into small particles and flushing such particles from the vessel in the presence of water.

1,565,327. Apparatus for Cracking Hydrocarbons. Fred G. Niece, Cleveland, Ohio, assignor to The International Holding Co., Cleveland, Ohio, a corporation of Ohio. Original application filed July 7, 1921, Serial No. 482,964. Divided and this application filed July 13, 1921. Serial No. 484,293. Thirteen claims. (Cl. 196—118.)



9. Apparatus of the character indicated comprising a hydrocarbon cracking receptacle which has a vapor outlet and contains a molten body penetrable by hydrocarbons and not vaporizable at the required hydrocarbon cracking temperature, a condensor, means for feeding hydrocarbons gases and vapors to the condenser from the aforesaid vapor outlet, an inner chamber formed within and discharging into said molten body, means for feeding hydrocarbon into the molten body through said inner chamber, and means for feeding, into said molten body and externally of said inner chamber, gases and vapors which have passed uncondensed through the condenser.

1,570,131. TREATING PETROLEUM OILS. Roland B. Day, Lansdowne, Pa. Filed August 5, 1921. Serial No. 489,936. 3 Claims. (Cl. 196—68.)



1. In the production of low boiling hydrocarbons from high boiling hydrocarbon oils, the process which comprises maintaining a first treatment chamber constantly full of liquid oil, maintaining a pool of oil in a second chamber and at a level above that of said first chamber and constantly connected by a communicating body of liquid with the oil of said first chamber, said communicating body of liquid extending from the interior and top of said first chamber to the interior and bottom of said second chamber, applying heat to the exterior of said first chamber sufficient to crack some of the oil therein, and leading off aeriform products from above said pool of oil, the even heating of liquid within said first treatment chamber being affected and the formation of carbon on the inner surface of the walls of said first chamber being prevented solely by violently agitating the liquid material continuously during the application of heat to said first chamber.

1,574,742. Process of refining and decolorizing bitumens. George W. Acheson, Caldwell, N. J. Filed October 8, 1924. Serial No. 742,429. Ten claims. Cl. 196—147.)

1. Process of refining and declorizing bitumens comprising reacting thereon with a solid reflocculated adsorbent material in conjunction with an acid reagent, separating the refined bitumen from the acid sludge, and further treating the same with an anhydrous oxid having a decolorizing action thereon.

1,574,935. Pressure still for oil refining. Daniel Pyzel, Piedmont, Calif., assignor to Simplex Refining Co., San

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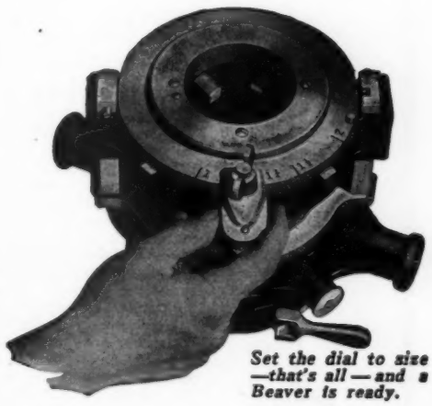

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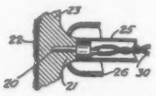
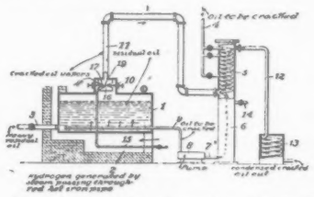
Francisco, Calif., a corporation of California. Filed March 13, 1922. Serial No. 543,508. Six claims. (Cl. 196—137.)



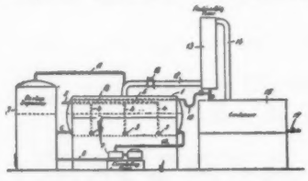
2. In a still, the combination of: a furnace; of container in said furnace; and an indicating thermometer embedded in but projecting through only one surface of the wall of said container.

1,575,663. APPARATUS FOR TREATING OIL. Frank C. Vande Water and Frederick R. Sunderman, Newburgh, N. Y., assignors to Petroleum Laboratories., Inc., Newburgh, N. Y., a corporation of New York. Filed January 16, 1923. Serial No. 613,011. 1 claim. (Cl. 196—127.)



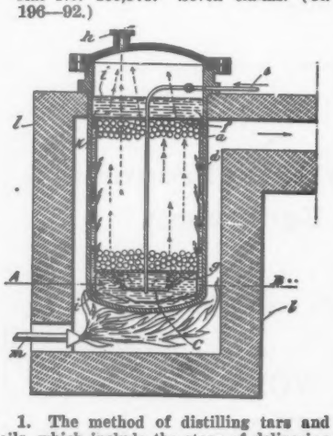
A device of the character described, including a still body having a dome, a supplemental chamber within the dome having a series of diametrically opposed valved openings therein, one set of opposed openings being connected to a gas supply, the other set of opening communicating with the still body.

1,573,582. PROCESS AND APPARATUS FOR DECOMPOSING OILS. Clive Morris Alexander, New York, N. Y. Filed October 9, 1919. Serial No. 329,625. Ten claims. (Cl. 196—70.)



1. A process of decomposing oil, comprising injecting a lighter oil in an atomized liquid from below the surface of a bath of heavy oil, heated to a temperature sufficient to decompose the lighter oil, at such a depth that the lighter oil will be cracked before vaporization collecting the oil formed as the result of the cracking, leading said heavy oil from the still, removing the carbon therefrom and returning it to the still.

1,573,370. METHOD AND APPARATUS FOR CONTINUOUS DISTILLATION OF TARS AND OILS. Erwin Blumner, Berlin-Charlottenburg, Germany. Filed April 11, 1921. Serial No. 460,573. Seven claims. (Cl. 196—92.)



1. The method of distilling tars and oils, which include the steps of delivering the tars and oils to the lower portion of a hot liquid metal and retarding the up-

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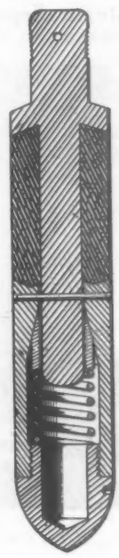

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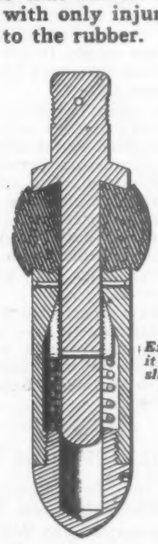

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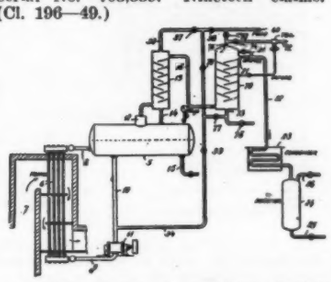
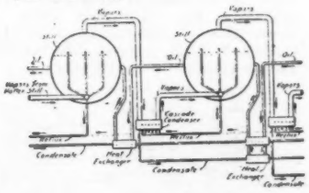
ward flow through the metal while maintaining the tars and oils in finely subdivided condition, said upward flow of the tars and oils effecting an upward circulation of the contiguous liquid metal, and permitting a return or down flow of the metal out of the path of the rising tars and oils.

1,575,031. Method and apparatus for cracking oils under pressure. John E. Bell, Brooklyn, N. Y., assignor to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed April 1, 1924. Serial No. 703,339. Nineteen claims. (Cl. 196—49.)



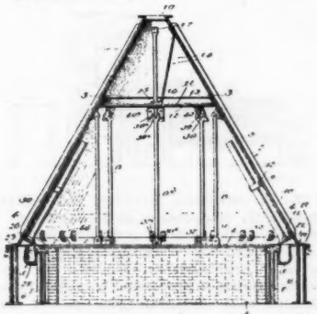
1. The process of cracking heavier hydrocarbons under pressure, which comprises subjecting the hydrocarbons to a cracking temperature under pressure, subjecting the resulting vapors to a regulated condensation while under pressure, permitting uncondensed vapors to escape through a fixed orifice, and increasing and decreasing the condensation in the said regulated condensation with increase and decrease, respectively, of the pressure.

1,576,401. OIL DISTILLATION. John E. Bell, Brooklyn, N. Y., assignor to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed October 7, 1921. Serial No. 506,088. 36 claims. (Cl. 196—73.)



1. A process of fractional distillation and condensation of oil which comprises flowing the oil to be treated through a series of stills maintained at successively higher vaporizing temperature, condensing part of the vapors given off in each still by absorbing heat therefrom by the oil in a still lower temperature and heating the oil intermediate successive stills by the condensed vapors from stills later in the series.

1,575,919. STILL. George Henry Hurshman, Graybull, Wyo. Filed February 28, 1925. Serial No. 12,381. 9 claims. (Cl. 196—133.)



1. In a still of the character described, a body portion, a bottom, means for supporting the bottom while leaving it free to expand and contract, and expansible and contractible means connecting the bottom and the body portion.

1,568,157. Method of and Apparatus for Effecting Continuous Distillation.

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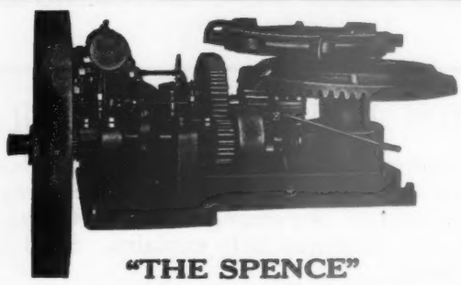

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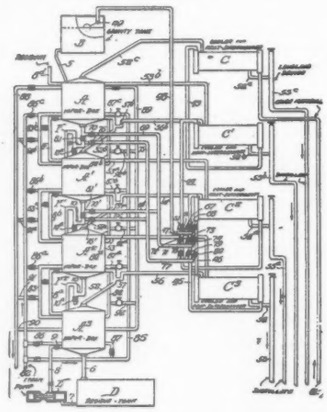
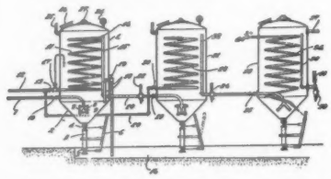
Francis M. Hess, Whiting, Ind. Filed December 29, 1921. Serial No. 525,597. Ten claims. (Cl. 196—73.)



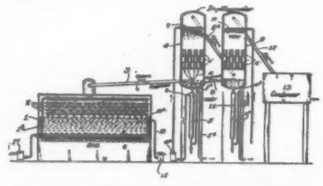
1. In a method of effecting continuous distillation, the steps or operations which consist in causing the crude material to flow by gravity through a series of vapor boxes, passing a heating agent through said vapor boxes out of contact with the crude material and in counter direction to the flow of the latter, simultaneously passing the vapor given off by one of said vapor boxes through a higher vapor box out of contact with the crude material flowing through the latter, and simultaneously passing the residuum from the lowermost vapor box upwardly through a higher vapor box out of contact with the crude material flowing through the latter.

1,573,321. CONTINUOUS PROCESS OF DEMULSIFYING MINERAL OILS. Wadsworth D. Leeper, New York, N. Y., assignor to American Demulsifying Co., Muskogee, Okla., a corporation of Oklahoma. Filed December 7, 1921. Serial No. 520,579. Eleven claims. (Cl. 196—5.)



10. The herein described process of demulsifying mineral oils which consists in first washing the oil by passing it through hot water while the oil is in a finely divided state and then passing live steam through the oil thus washed.

1,573,025. APPARATUS FOR SEPARATING HYDROCARBONS. Willard C. Averill, Jr., Houston, Texas. Filed October 7, 1922. Serial No. 593,084. Three claims. (Cl. 196—139.)

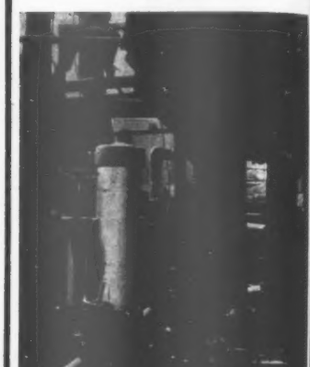


1. A petroleum distilling and refining apparatus comprising in combination, a still, a dephlegmator, a vapor line connecting said still with the lower portion of said dephlegmator, a draw off and water separator connected with the lower end of said dephlegmator, means for withdrawing condensate from said separator and spraying the same into the upper part of said dephlegmator, and means for withdrawing vapor from the upper portion of said dephlegmator.

1,573,591. PROCESS OF HEATING FLUIDS. Frank E. Wellman, Kansas City, Kans., assignor to The Kansas City Gasoline Co., Kansas City,

VOLZ

Automatic Lubricator and Steam Separator
U. S. PATENT NO. 1549938



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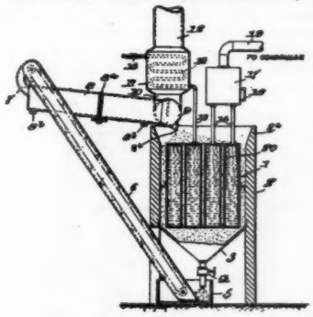
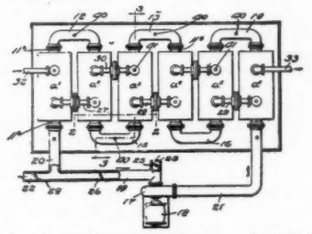
Kans., a corporation of Kansas. Filed September 13, 1921. Serial No. 500,424. Two claims. (Cl. 196—119.)



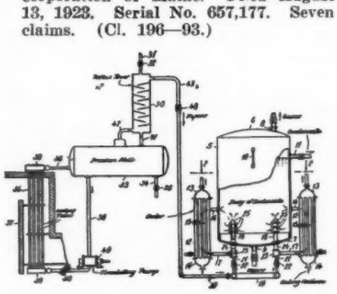
1. The process of heating fluids and the like which consists in first heating a mass of granular refractory material and then flowing the same over and about the body of fluid to be heated and out of contact therewith.

1,573,129. PROCESS AND APPARATUS FOR FRACTIONAL CONDENSATION. John E. Bell, Brooklyn, N. Y., assignor to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed March 23, 1922. Serial No. 545,951. Sixteen claims. (Cl. 196—94.)



1. A process of the class described which comprises passing the vapors to be condensed into heat exchange relationship with a cooling medium moving through a closed circuit, and regulating the temperature of the medium by replacing a portion thereof with fresh cooling medium.

1,573,167. CONDENSATION OF HYDROCARBON VAPORS. Edward W. Isom, Winnetka, Ill., and John E. Bell, Brooklyn, N. Y., assignors to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed August 13, 1923. Serial No. 657,177. Seven claims. (Cl. 196—93.)



2. The improvement in the condensation of hydrocarbon vapors from pressure stills which comprises circulating a stream of condensate of the vapors through a cooler from and to a relatively large body of the condensate and cooling the circulating condensate and injecting the vapors from the pressure still into this stream between the cooler and the large body of condensate.

1,574,546. OIL-HEATING FURNACE. John E. Bell, Brooklyn, N. Y., assignor to Sinclair Refining Co., Chicago, Ill., a corporation of Maine. Filed January 28, 1922. Serial No. 532,482. 14 claims. (Cl. 196—116.)

5. A tubular oil cracking still having a heating chamber, a series of vertical oil heating tubes adapted to be externally heated extending through said heating chamber, a flue communicating with the lower end of said heating chamber, a

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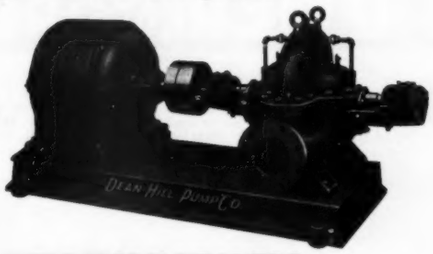

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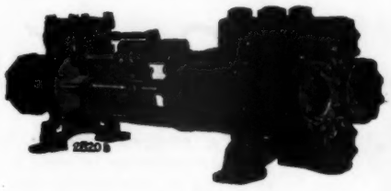

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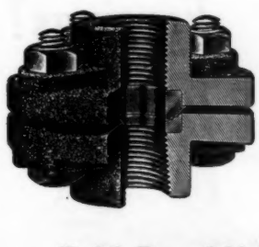

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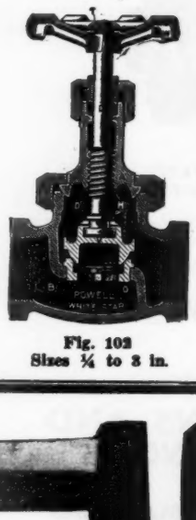

Fig. 102
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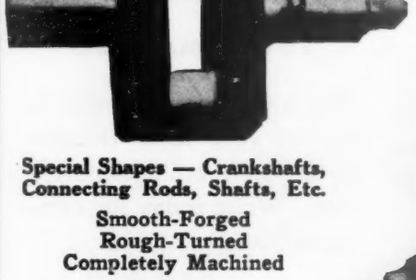

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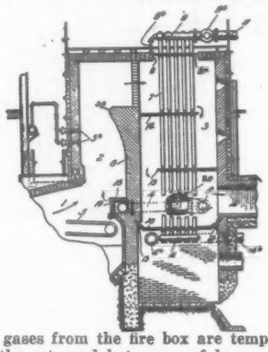
fire box having an elongated vertical throat communicating at its upper end with said heating chamber, a flue connecting the lower end of the heating chamber with the lower end of the throat, and means in said flue for forcing the return of partially cooled but still hot gases to the first box, whereby the heating gases from the fire box are tempered by the returned hot gases of lower temperature and the resulting mixture is passed through the heating chamber.



H. G. LAPHAM OPTIMIST ON OUTLOOK FOR OIL

BOSTON, Mass., Apr. 10.—Henry G. Lapham, director of The Texas Company and the California Petroleum Co., who has just finished a trip to Mid-Continent and other oil fields, in addition to the holding of The Texas Company, says:

"During the stock market slump of the last three weeks the one group conspicuous for its resistance to selling pressure and for its market steadiness was the oil group. In this group I include representative oil shares; stocks of good, prosperous and expanding oil companies.

"I make no boast of being a stock market oracle, but this relative market strength is not extraordinary when one considers the fundamental soundness of the oil situation. At no time in the past five years have oil companies faced such bright prospects as now. I believe 1926 will be a banner year for oil producing, refining and selling companies.

"In January over 100,000 barrels of crude oil daily were taken out of storage. Approximately 200,000 barrels a day are being withdrawn from storage now. Production of oil in California in week ended March 20 showed a decline of 29,000 barrels a day from the first of the year. Crude production for the country at large showed a decline of 60,000 barrels a day compared with the first week in January.

"Back of decreasing production and declining stocks is the fact that no new pools are being uncovered. The newest pool, the Bolling field in Texas, will not be a factor of any consequence. Already water is appearing in the wells; that field has passed its peak.

"Oil and gasoline prices last year, while better than in 1924, were in no sense boom prices. Gasoline today at 21 cents a gallon in New England is one of the cheapest commodities in this country. On the Pacific Coast there has been an increase of 4 cents a gallon in the price of "gas" from the low of last year. The big oil companies will do very well in California this year.

"The recent mergers announced and those that I know to be in the offing are bound to stabilize the industry. Many of the smaller companies who in the past were financially unable to weather a depression have gone under the protection of larger concerns; no one gained by having oil markets demoralized by distress sales. That to my mind has been greatly eliminated.

"We are on the eve of a big consuming season; there are more automobiles on the road now and in prospect of being driven than ever before. The inroads on our oil and gasoline production this year will be of record proportions.

"It is any man's guess what stock prices can do. But basically the oil industry is in excellent condition and sel-

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OIL VALUE SCHEDULE, NAVARRO COUNTY, TEX.

CORSICANA, Tex., Apr. 10.—A schedule for the values of the oil properties of Navarro County for 1926 has been prepared by the Commissioners Court. The valuation will be based on the average daily production for the months of January, February and March of 1926.

The working interests in the Powell Field will be $300 per bbl. for the daily average production and the royalty interest will be taxed $500 per barrel per daily average production.

The production in the Richland and Currie Fields will be taxed $250 per barrel per daily average production for working interests and $410 for royalty interests.

Following is the schedule for pipe lines in the county per mile: Two-inch, $500; 3-inch, $800; 4-inch, $1,200; 6-inch, $2,000; 8-inch $2,750; 10-inch, $4,000; 12-inch, $5,000.

Deep wells each will be $2,000, shallow wells will be listed as $1,000 each.

Storage oil will be shown at $1 per barrel. Oil field boilers will be based on $300 each and tanks above 10,000-bbl. capacity will be turned in at 10 cents per barrel capacity.

The following schedule is given for storage tanks: 10,000-bbl. tanks, $1,250; 5,500-bbl. tanks, $750; 2,000-bbl. tanks, $500, 1,500-bbl. tanks, $375; 1,000-bbl. tanks, $300; 750-bbl. tanks, $225; 500-bbl. tanks, $175; 250-bbl. tanks, $100.

Gas and oil engines will be about $50 per horsepower. Pumps will be about one-half the value of the engines. Rotary drilling rigs will be $5,000 and standard rigs will be $1,750 each.

FRANK PHILLIPS SEES BEST OIL YEAR AHEAD

Frank Phillips, president of the Phillips Petroleum Co., sees no reason to change the opinion he expressed earlier in the year, that oil companies, especially those having considerable part of their assets in oil production, should have the best year in their history.

"Crude oil production," he says, "is much below the average year's consumption and there are no new pools in sight giving evidence of changing this status, although production for the next several weeks will probably show some increase due to extension of present pools. This increase and more should be readily absorbed by increased spring and summer demand.

"Regardless of general business conditions, consumption of gasoline will show a material increase over last year's figures. Stocks of light refinable crude in the Mid-Continent field are being reduced, and while it is anticipated that the usual increase in stocks of refined products will occur during the early spring months, this is seasonal."

He states that Phillips Petroleum in the first quarter of 1926 will show net approximately 40 per cent larger than the same period of last year, and the largest quarter in the company's history. The company has contracted for considerable portion of its oil and gasoline production for the next two years, and is continuing its expansion program.

ASSIGNED PART OF LEASE

STERLING, Okla., Apr. 10.—Wirt Franklin, Ardmore oil operator, has been assigned 200 acres of the lease to a part of Section 36-2n-10w, which the State a few months ago awarded to I. R. McCan. Franklin expects to drill on the land. Part of the original tract leased to McCan was assigned to the Magnolia Petroleum Co. which identified a new pool in this territory. The State yet has some unleased lands in that vicinity soon to be offered to the highest bidder.

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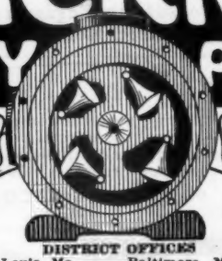

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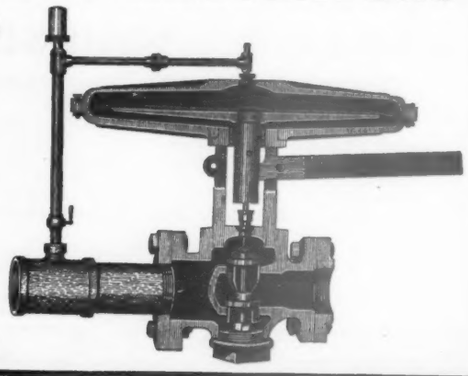

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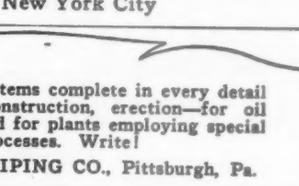

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ADVENTURE IN BORNEO AS THRILLING AS EVER

CHATHAM, Ont., Apr. 10.—A Borneo correspondent writes:

"Don't for a moment think there is not as much adventure out here at present as in the past. There have been three steamers attacked by pirates while under British officers, and a good many lives have been lost in the past four years, besides numerous native craft. Holdups in true western style and murders are common affairs. Have had a little touch myself on my last vacation, but who would not live out here? There is as much notice taken of them as there is of a driller returning to Petrolia after being away from 3 to 20 years and traveling 14,000 miles to be in time for the Old Boy's reunion.

"The following drillers have returned to Miri from home leave in the past two months: Charles Macalpine, superintendent of Sarawak Oilfields, Ltd. Miri and the British-Malayan Petroleum Co., Belait, Brunei—was up to Belait on a tour of inspection the middle of December; Mr. and Mrs. "Jimmy" Brown and family; Mr. Bloss Sutherland and bride; and Duncan McIntyre. Stuart Nesbit, drilling foreman, is expected to return to Miri shortly with his wife and child. A. E. Haley has left Miri for home, via England, where he will join his wife and child, and then to Canada and the States on seven and a half months' vacation."

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LEGAL

DEPARTMENT OF THE INTERIOR
U. S. LAND OFFICE
Baton Rouge, Louisiana.

Notice is hereby given that the following described tracts in the Caddo oil field, Louisiana, are offered for oil and gas lease under Sec. 17 of the act of February 25, 1920 (41 Stat., 437), at the standard royalty fixed for departmental leases varying from 12½ to 33 1/3% of the oil produced, depending upon daily production per well, subject to reduction at discretion of lessor when average daily production of any well shall not exceed 10 barrels per day; and 12½ to 16 2/3% of casinghead gasoline and an annual rental of $1.00 per acre payable in advance which will be credited against royalties as they accrue for that year.

TRACT A: Lot 4, Sec. 5 (14.10 acres);
TRACT C: Lot 3, Sec. 5 (14.12 acres);
TRACT D: Lot 3, Sec. 4 (11.88 acres);
TRACT E: Lot 3, Sec. 3 and Lots 4 and 5, Sec. 4 (25.91 acres);
TRACT F: Lots 2 and 3, Sec. 8 (32.82 acres);
TRACT N: Fri. Sec. 20 (37.83 acres);
TRACT O: Lots 1 and 3, Sec. 32 (91.56 acres);
TRACT P: Lot 5, Sec. 32 (44.21 acres);
TRACT Q: Lot 1, Sec. 25 (8.90 acres);
TRACT R: Lot 1, Sec. 36 (9.12 acres);
TRACT S: Lot 2, Sec. 36 (4.69 acres).

All the above tracts are situated in T. 20 N., R. 16 W.

TRACT T: S½ NE¼ and W½ SE¼ Sec. 31 (160 acres) T. 20 N., R. 15 W.

TRACT U: SE¼ SE¼ Sec. 28 (39.98 acres), T. 22 N., R. 15 W.

TRACT V: SE¼ Sec. 9 (160.20 acres), T. 21 N., R. 16 W.

Said individual tracts will be offered at public auction at the Federal Court Room, Post Office Building, Shreveport, Louisiana, at 10 a. m. on April 21, 1926, and sold to the qualified bidder offering the highest bonus for lease of each tract at the stated royalty. One person, association or corporation may purchase not exceeding 640 acres. The successful bidder must deposit on day of sale a certified check upon a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease as required by Sec. 15 of Circular 672 oil and gas regulations, as to citizenship and ownership in other permits and leases. The remaining four-fifths of the bid must be paid prior to issuance of lease.

The bidders are warned against violation of the provisions of Sec. 59 of the U. S. Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders.

The right is reserved to reject any or all bids in the discretion of the Secretary of the Interior.

GEORGE J. REILEY, Register.

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Detailed Operations in All Fields for Month of March

SUMMARY OF ALL FIELDS

Fields—	Comp.	Prod.	Dry	Gas
Eastern	289	2,425	36	67
Lima	30	495	1	2
Indiana	5	28	3	0
Central Ohio	35	514	11	18
Kentucky	61	580	18	0
Illinois	18	492	5	0
Kansas	211	17,310	74	6
Oklahoma	439	60,679	141	56
North Texas	500	35,483	201	11
East Central Texas	6	10	5	0
Arkansas	77	6,047	22	8
Louisiana	90	7,594	19	6
Gulf Coast	96	27,047	39	0
Southwest Texas	52	8,142	7	16
Wyoming	43	17,008	3	1
Montana	13	4,077	5	2
Colorado	5	430	2	0
New Mexico	22	910	8	0
Totals March	1,992	189,271	600	193
Totals February	1,689	146,784	482	175
Difference	303	42,487	118	18

Summary of New Work

Fields—	Rig	Drlg.	Total
Eastern	144	342	486
Lima	15	49	64
Indiana	4	32	36
Central Ohio	19	58	77
Kentucky	12	150	162
Tennessee	0	7	7
Mississippi	2	9	11
Alabama	0	4	4
Georgia	1	3	4
Illinois	7	41	48
Kansas	103	360	463
Oklahoma	226	1,020	1,246
North Texas	58	423	481
East Central Texas	5	27	32
Arkansas	22	100	122
Louisiana	16	99	115
Gulf Coast	49	135	184
Southwest Texas	24	72	96
Wyoming	35	268	303
Montana	17	140	157
Colorado	18	107	125
Utah	2	32	34
New Mexico	11	138	149
Totals March 31	790	3,616	4,406
Totals February 28	837	3,698	4,535
Difference	47	82	129

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Osage	54	6,325	6	5
Tulsa	13	55	5	5
Okmulgee	54	1,590	21	8
Seminole	10	4,391	2	0
Okfuskee	12	1,075	6	3
Hughes	14	717	10	0
Muskogee and Wagoner	15	170	7	4
Creek	46	8,126	17	4
Pawnee	25	958	8	0
Kay	30	10,073	9	4
Payne	13	5,378	1	5
Lincoln	37	9,077	5	0
Garfield	8	7,800	4	0
Grady	12	305	4	6
Stephens and Cotton	36	375	20	7
Carter	15	1,638	1	2
Jefferson	16	2,288	3	0
Miscellaneous	29	338	12	3
Total March	439	60,679	141	56
Total February	321	51,757	107	32
Difference	118	8,922	34	24

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Osage	13	62	75
Tulsa	7	33	40
Okmulgee	24	60	84
Seminole	22	75	97
Okfuskee	9	57	66
Hughes	3	38	41
Muskogee and Wagoner	5	15	20
Creek	38	109	147
Pawnee	8	49	57
Kay	10	68	78
Payne	9	51	60
Lincoln	7	62	69
Garfield	14	70	84
Grady	8	24	32
Comanche	2	15	17
Pontotoc and Garvin	4	19	23
Stephens and Cotton	10	38	48
Carter	14	55	69
Jefferson	1	18	19
Miscellaneous	18	102	120
Total March	226	1,020	1,246
Total February	257	996	1,253
Difference	31	24	7

WELLS COMPLETED
OSAGE COUNTY

26-29-9e Winona Oil 6 25
15-29-10 I. T. I. Oil 2 5
Oliphant et al 4 100
Oliphant et al 5 90
28-28-11 Duffield & Howard 2 15
2-27-5e Phillips Pet. 5 175
Phillips Pet. 11 500
8-27-11 Owen Osage Oil 359 ..... gas
17-26-6e Seamans et al 1 20
26-26-8e Petroleum Drlg. Co. 16 ..... gas
16-26-12 Interstate O. & G. 48 15
25-24-8e Tidal Osage Oil 14 15
29-24-8e Continental Oil 3 1342
28-24-10 Winona Oil 13 10
11-24-11 Barnsdall Oil 5 25
23-22-10 Elon Oil 11 25
4-22-11 Kewanee Oil 4 60
18-21-9e Barnsdall Oil 9 25
11-21-10 Oklahoma Nat. Gas 708 ..... gas
27-21-10 Devonian Oil 1 20
7-21-11 Titus & Norris 3 ..... dry
19-21-12 Kewanee Oil 8 100
4-20-12 Barnsdall Oil 13 50
28-20-12 Continental Oil 3 ..... dry
29-20-12 Westland Oil 2 30
15-20-10 I. T. I. Oil 14 85
Oliphant et al 6 175
2-27-5e Skelly Oil 6 175
20-27-6e Phillips Pet. 7 100
5-25-12 45 Oil Co. 40 8
13-23-8e Twin State Oil 2 130
20-23-10 Delmar Oil 1 ..... gas
20-22-8e Thompson & Black 1 ..... dry
14-29-10 I. T. I. Oil 5 5
15-29-10 I. T. I. Oil 15 100
26-29-11 L. C. Hivick 1 ..... dry
27-29-11 Wiser Oil 15 10
19-25-8e Wrightsman et al 1 380
2-27-5e Phillips Pet. 15 1517
9-26-6e Carter Oil 8 18
1-26-11 Mid-Kansas Oil 1 ..... gas
34-25-11 Devonian Oil 13 15
24-24-8e Tidal Osage Oil 3 100
1-24-11 Tselos & Roxana 3 15
23-22-11 Rex Pyramid 1 ..... dry
14-21-9e Clint Moore et al 1 10
11-21-10 Mid-Kansas Oil 5 300
18-21-10 Kanupp & Bozo Drlg. 6 15
30-21-10 Devonian Oil 1 ..... dry
16-21-12 Commercial Drlg. Co. 7 15
30-21-12 Elliott & Smith 22 80
30-20-11 Sand Springs Home Oil 1 10
21-25-6e The Prairie O. & G. 2 450
Prairie O. & G. 3 115
Wells completed 54
Production 6325
Dry 6
Gas 5
Gas production 7,750,000

TULSA COUNTY

24-19-11 Burgess, Sand Springs Home 1. dry
3-18-12 Vance, S. E. Vance 18 ..... gas
24-18-13 Chrisholm, Green et al 1 10
32-21-14 Gassaway, E. L. Mayfield 1 ..... dry
31-22-14 Ward, Tiffin Bleas 1 ..... dry
14-19-10 Robinson, Holmes et al 4 ..... gas
15-19-10 Beaver, Crown Central Pet. 1 25
33-19-13 Orcutt, Pelham Pet. 7 ..... dry
2-17-14 Gaines, Green et al 4 ..... gas
2-17-14 Childers, Minshall et al 2 ..... dry
12-16-13 Cooper, W. O. Dickenson 1-A 20
10-19-10 Strip, White Eagle O. & R. 1 ..... gas
15-19-11 Fife, Minshall et al 2 ..... gas
Wells completed 13
Production 55
Dry 5
Gas 5
Gas production 31,750,000

OKMULGEE COUNTY

20-15-12 Adams, D. D. Mickelson 9 ..... gas
21-14-12 Colbert, Kingwood Oil 1 ..... dry
Arbitt, Kingwood Oil 3 ..... dry
35-14-12 Haynes, Kingwood Oil 1-A ..... gas
3-12-12 Tiger, Vierson & Walters 3 ..... dry
7-15-13 Wisner, Devonian Oil 11 250
8-15-14 Rowe, Hennessey et al 3 55
9-14-13 Fixico, J. K. Gardner 1 ..... dry
21-13-14 Dunn, Cumberland Oil 3 ..... dry
6-12-14 Griffin, Kingwood Oil 3 ..... dry
14-14-12 McIntosh, Nicholson Corp. 2 ..... gas
20-16-12 Donoghy, Sheldon et al 2 10
23-16-14 Davis, Gilliland Oil 1 ..... dry
4-15-11 Fife, Sheridan Oil 3 30
29-15-11 Thompson, Kellough et al 4 ..... dry
35-15-12 Astrom, Barbara Oil 3 ..... gas
12-14-11 Biggerstaff, Simmons et al 8 ..... dry
31-13-12 Morton, L. C. Wheeler et al 1-A 20
16-11-12 Grayson, H. & M. Oil 3 10
32-11-12 Ashbury, Webb et al 1 25
10-14-14 Stephen, Wick Pet. 5 10
34-14-14 Anderson, J. I. Selby 13 5
35-14-14 Anderson, J. L. Selby 29 15
8-14-15 Anderson, Wineland 12 35
15-13-14 Scott, Roxana Pet. 6 360
20-13-15 Segro, E. J. Lambert 3 ..... gas
23-11-13 Davis, Nicholson Corp. 1 ..... dry
9-15-12 Forty Four, Carter Oil 1 30
26-14-12 Bruner, Harris-Hayes et al 1-A ..... dry
22-14-12 Ard, The Texas Co. 1 ..... dry
16-13-12 Myra, J. M. Pine et al 1 ..... dry
7-12-12 Turner, Morton & Co. 2 150
1-14-14 Haris, Arksarben Oil 7 9
31-12-12 Rentie, Simms Oil 14 90
14-14-14 Colbert, Mechling 2 20
9-14-15 Sells, J. L. Powell 6 25
20-13-15 Sergo, E. J. Lambert 4 ..... gas
36-12-13 Flusche, Pulaski Oil 9 5
20-12-14 Hawkins, W. B. Pine 2 ..... gas
1-11-13 Thompson, Magnolia Pet. 6 ..... dry
27-16-12 Haskins, Independent O. & G. 14 ..... dry
18-15-12 Haskins, Bright et al 1 ..... dry
24-15-12 Brown, Page Bros. Oil et al 1 dry
22-13-12 Haskins, H. E. Clark 10 ..... gas
7-15-13 Fields, Devonian Oil 7 35
9-15-13 Brown, J. J. Schock et al 2 ..... dry
32-15-14 Roberts, Kingwood Oil 3 ..... dry
6-14-14 Harris, D. E. Kirkpatrick 3 ..... dry
13-14-14 Fields, Elm Oil 4 10
12-13-13 Daniel, Mid-Cont. Pet. 3 10
4-13-14 Fishee, J. K. Gardner 10 6
15-13-14 Doyle, C. H. Lebow 10 175
Doyle, C. H. Lebow 10-A 200
Scott, Utah Oil 15 ..... dry
Wells completed 54
Production 1590
Dry 21
Gas 8
Gas production 27,500,000

SEMINOLE COUNTY

10-9n-5e Ingram, Morgan & Flynn 1 200
14-8n-7e Carolina, Magnolia Pet. 2 887
28-11-8e N. Williams, Gypsy Oil 2 173
33-11-8e Baker, Carter & Pulaski Oil 8 40
19-8n-8e Taylor, W. R. Ramsey 2 ..... dry
31-8n-8e Amos, W. R. Ramsey 4 1358
6-7n-8e Carolina, Homaokla Oil 2 1608
8-9n-8e Buckner, Phillips Pet. 1 40
Production 4391
Dry 2
22-9n-8e E. Williams, Jarvis & Holm 1 dry
4-7n-6e Walker, Bryan Bros. 1 85
Wells completed 10

OKFUSKEE COUNTY

13-12-11 Sugar, Indep. & Anglo-Tex 7 dry
10-10-11 School land, Transcontl. Oil 1. gas
22-13-8e Scott, Phillips Pet. 1 ..... dry
15-12-11 Hill, Independent O. & G. 1-A dry
33-12-11 McCoy, Josey Oil 4 ..... dry
McCoy, Josey Oil 8 ..... dry
19-11-11 Barnett, Riverland Oil 1 ..... gas
24-11-11 Fields, Minnehoma Oil 10 ..... gas
33-12-11 Carolina, Indep. & McMahon 3 360
16-11-11 Jefferson, Atlantic Oil 8 75
22-11-11 Holmes, Windsor Oil 7 640
8-10-12 Fisher, McCarty et al. 1 ..... dry
Wells completed 12
Production 1075
Dry 6
Gas 3
Gas production 35,000,000

HUGHES COUNTY

23-9n-9e Bruner, Empire G. & F. 2 ..... dry
26-9n-9e Proctor, Empire G. & F. 2 ..... dry
Harjo, Transconti. & Indep. 3 157
18-8n-10 Seacrest, Indep. & Amerada 1 dry
10-9n-9e Polk, T. B. Slick 3 60
23-9n-9e Bowlegs, Ramsey & Dempsey 2 dry
26-9n-9e Davis, Foster Inv. Co. & Ind. 1 dry
Proctor, Indep. & Darby Pet. 2 dry
35-9n-9e Harjo, Waite Phillips 1 ..... dry
14-9n-9e Deere, Independent & Atl. 1 dry
23-9n-9e Harjo, Independent O. & G. 1 dry
26-9n-9e Harjo, Transcontinental Oil 7 250
34-9n-9e Harjo, Mid-Kansas Oil 1 ..... dry
18-8n-10 Alexander, Independent & Gladys Bell 3 250
Wells completed 14
Production 717
Dry 10

MUSKOGEE AND WAGONER COUNTIES

14-15-15 Smith, New England O. & P. L. 4 ..... gas
10-18-16 Finch, R. W. Talbot 1 ..... gas
21-18-16 Tiger, Eastern Okla. Pet. 5 20
35-18-16 Burgess, R. H. Perry 1 ..... dry
19-18-18 Colbert, S. R. Threlkild 3 ..... dry
15-17-16 Vernon, Knox-Shouse 5 ..... dry
35-17-16 Prince, Mitchell Oil 2 ..... gas
36-16-17 Smith, C. M. Whaley 1 ..... gas
29-18-16 Scales, Iron Mtn. Oil 1 40
Hawkins, D. T. Marr 1 50
20-17-16 Taylor, O. A. Sewell et al. 2 ..... dry
26-13-16 Peter, J. A. Shepard 1 ..... dry
24-17-16 Tiger, R. E. Fike 1 ..... dry
6-17-18 Clark, M. T. C. Oil 1 ..... dry
14-15-15 Smith, New England O. & P. L. 5 60
Wells completed 15
Production 170
Dry 7
Gas 4
Gas production 17,500,000

CREEK COUNTY

27-17-8e Bigpond, Inter-Ocean & Roland Oil 1 960
E. Alec, Waite Phillips 2 800
35-17-8e Strip, Nowata O. & R. ..... dry
13-18-10 Martin, Red Bank Oil 1 ..... dry
28-18-11 Johnson, Riverland Oil 1 ..... gas
6-18-12 Strip, Kennedy et al 3 10
24-17-10 Dawson, J. H. Wright 10 70
33-16-9e Edwards, Burke-Hoffield Oil 7 dry
5-16-12 Gillette, Henry Oil 1 80
3-14-10 Wright, Tom Kelly 1 ..... dry
12-14-8e Saab, The Prairie O. & G. 2 ..... dry
12-18-8e Nane, F. R. Billingslea 1 ..... gas
18-17-8e Hill, Black Gold Oil 1 ..... dry
27-17-8e Alec, Waite Phillips 1 625
2-15-8e Heneha, Wilcox O. & G. 9 15
17-15-8e Roberts, Tidal Oil 8-A 325
22-15-8e Wayman, Bu-Vi-Bar Pet. 1 ..... gas
5-14-7e Folliopa, Wilcox O & G. 1 ..... dry
6-18-12 Gray, Gypsy Oil 16 1440
21-17-9e Harjoche, T. P. C. & O. Co. 5 720
10-17-11 Hawkins, Williams et al 2 ..... dry
18-16-11 Simmons, Riverland Oil 1 ..... dry
7-16-12 Maxwell, Hilt et al 3 ..... dry
31-15-9e Lucas, Skelly Oil & Billingslea 5 144
27-17-8e Alec, Waite Phillips 3 1883
32-17-8e Washington, Olean Pet. 2 5
12-14-8e Bruner ..
34-15-8e Sewell, C. G. Tibbens 3 30
12-14-8e Bruner, The Texas Co. 3 127
8-18-11 Collins, Terrell Oil 2 ..... dry
6-18-12 Townlot, Caskey & Agnew 1 ..... dry
Strip, Kennedy et al 4 160
24-17-10 Dawson, J. H. Wright 8 ..... dry
27-17-11 Harris, L. McClung et al 1 ..... dry
30-15-9e Unallotted, C. G. Tibbens 18 25
Unallotted, C G. Tibbens 21 197
13-19-8e Peters, Gled Oil 2 50
22-17-8e Mitchell, Barnsdall Oil 1 75
4-16-8e Yardy, Margay Oil 1 ..... dry
17-15-8e Wilson, Roxana Pet. 2 ..... dry
12-14-8e Bruner, C. G. Tibbens 6 120
McKan, Skelly Oil 12 25
17-18-9e Unallotted, Winona Oil 1-A.. dry
6-18-12 Strip, Munn Bros. 2 65
34-17-10 Snapp, H. C. Wilson 1 50
30-15-9e Unallotted, C. G. Tibbens 22 .. gas
30-14-10 Craig, Wood Oil 1 125
Wells completed 46
Production 8126
Dry 17
Gas 4
Gas production 19,000,000

PAWNEE COUNTY

29-23-5e Newport, Magnolia Pet. 1 ..... dry
9-20-6e E. Fugate, Magnolia Pet. 3 25
1-20-7e Mullendore, Selby & Gypsy 17. 20
2-20-7e Woolf, Murray et al 5 40
5-20-8e Aten, Sun Ray Oil 3 ..... dry
7-20-8e Childers, Minnehoma Oil 3 60
10-20-8e Brentenall, Sinclair O. & G. 5 324
29-21-8e Davis, Rube De Long 1-A ..... dry
20-20-6e Lesher, Fern Oil 2 20
33-23-3e Miller, Watchorn O. & G. 13 .. 177
36-23-4e School land, Magnolia Pet. 1 .. 27
16-20-6e Rimmer, Eimar Oil 6 30
Baker, Magnolia Pet. 9 30
School land, Magnolia Pet. 2 .. 20
22-20-6e Scott, Josey Oil 2 30
9-20-7e Clark, Markham Oil 1 ..... dry
16-20-7e School land, Mid-Cont. Pet. 15 35
21-20-7e Sublet, Tidal Oil 9 25
33-23-3e Miller, Mariand Oil 2 ..... dry
Miller, Mariand Oil 4 ..... dry
17-21-7e Diehnel, R. E. Freeman 2 ..... dry
36-21-7e School land, Mid-Cont. Pet. 5 6
School land, Mid-Cont. Pet. 8 dry
32-21-8e Sigon, Adamson C. O. & G. 6 45
36-20-6e School land, Riverside O. & R. 1 44
Wells completed 25
Production 958
Dry 8

KAY COUNTY

21-29-1w Duncan, Comar Oil 2 101
McCormick "B", Comar Oil 1.. 100
McCormick, "B", Comar Oil 3 80
28-29-1w Frost, Harris & Hahn 1-A... gas
28-29-1w Meier, Comar Oil 1 81
12-26-1w Sodowsky, Harris & Hahn 1. dry
22-25-2w Siler, Twin State Oil 1 75
22-29-4e Boone, King Drlg. Co. 1 ..... dry
26-28-4e Frick, Terminal Oil 1 ..... dry
21-29-1w Priboth, Comar Oil 8 43
5-28-1w Lawrence, Comar Oil 1 1871
22-27-2e Butler, Mississippi Valley Oil 1 dry
31-27-2e Schmidt, Comar Oil 1 7
1-26-2w Fitzgerald, Marland Oil 1 100
21-29-1w Duncan, Comar Oil 8 297
Duncan, Comar Oil 9 275
Harvell, Comar Oil 7 142
5-28-1w Biddle, Comar Oil 3 2746
33-25-2w School land, Pennok Oil 1 ..... dry
20-27-4e Maple, Le Wright & Gay 1 ..... dry
10-27-1w Jones, The Prairie O. & G. 4.. gas
25-29-2w Sheets, Hickman & Barnhart 1 dry
16-29-1e School land, Marland Oil 1 18
5-28-1w Biddle, Comar Oil 4 2687
4-27-1w Kelly, Arkansas Fuel Oil 2 750
9-27-1w Burkholder "A", Polling & Denny 2 ..... gas
Geiger, Blackwell O. & G. 4.. 700
17-27-1w Jameson, Carter Oil 2 ..... gas
16-25-2w School land No. 24, Marland Oil 3-A ..... dry
26-25-2w Hangartman, Independent O. & G. 1 ..... dry
Wells completed 30
Production 10,073
Dry 9
Gas 4
Gas production 74,000,000

PAYNE COUNTY

23-18-3e Boyles, Deep Rock Oil 1 ..... gas
27-18-3e Fulton, Deep Rock Oil 1 258
13-19-4e Stover, Roxana Pet. 1 1975
23-19-4e Parren, Olean Pet. 1 1157
7-18-5e Goss, P. & R. Corp. 2 60
6-17-4e Payne, Magnolia Pet. 3 ..... gas
14-19-4e Erwin, Olean Pet. 1 1570
27-19-4e Chevalier, Magnolia Pet. 13.. gas
23-18-3e Haley, Amerada Pet. 3 45
5-17-4e Sharrum, Mulberry Oil 1 ..... gas
6-17-4e Foster, Home Gas 1 ..... gas
17-18-5e McKaughn, The Texas Co. 1.. dry
35-19-5e Laughlin, Josey Oil 10 310
Wells completed 13
Production 5378
Dry 1
Gas 5
Gas production 36,250,000

LINCOLN COUNTY

3-14-5e Stout, The Prairie O. & G. 17 250
20-15-5e Elliott, I. T. I. Oil 1 ..... dry
25-15-5e Stahl, Flynn, Morgan & Young 1 ..... dry
2-14-5e Tuttle, Carter Oil 5 110
Sukovaty, Magnolia Pet. 12.. 212
10-14-5e Patterson, Phillips Pet. 2 260
Patterson, Phillips Pet. 3 200
11-14-5e Caves, Gypsy Oil 8 80
14-13-6e Heinzig, P. & R. Corp. 1 ..... dry
5-12-3e Jones, Wilcox Oil 1 ..... dry
8-12-5e Richardson, Wilcox Oil 1 ..... dry
2-14-5e Hopkins, Amerada Pet. 3 250
Tuttle, Carter Oil 7 75
A. Sukovaty, Magnolia Pet. 14 200
Hopkins, Skelly Oil 6 240
Hopkins, The Texas Co. 7 875
10-14-5e Nickel, Shaffer O. & R. 2 125
11-14-5e Caves, Gypsy Oil 6 235
35-15-5e A. Sporleder, The Prairie O. & G. 3 450
34-15-5e A. E. Sporleder, Magnolia Pet. 2 125
M. & F. Sporleder, Magnolia Pet. 6 80
35-15-5e Jefferson, Pure Oil 6 255
7-15-6e Ford, Skelly Oil 4 672
2-14-5e Hopkins, Amerada Pet. 2 250
Tuttle, Carter Oil 6 58
Hopkins, Skelly Oil 7 180
3-14-5e Belless, Amerada Pet. 5 300
Belless, Amerada Pet. 6 280
10-14-5e Nickel, Shaffer O. & R. 3 25
11-14-5e Caves, Gypsy Oil 5 50
Caves, Gypsy Oil 9 840
Caves, Gypsy Oil 10 610
Roberson, Southwestern Pet. 2 450
35-15-5e Caves, Gypsy Oil 8 30
8-15-6e Kilgore, Phillips Pet. 1 550
11-14-5e Caves, Gypsy Oil 7 600
3-14-5e Stout, The Prairie O. & G. 18.. 170
Wells completed 37
Production 9077
Dry 5

GARFIELD COUNTY

24-22-4w Belveal, Sinclair Oil 31 ..... dry
5-22-3w Hays, Carlew Drlg. 1 ..... dry
18-22-3w Hartley, Sinclair Oil 24 ..... dry
Hartley, Sinclair Oil 25 ..... dry
Schroeder, Roxana Pet. 13-W 196
4-21-3w Clock, Pender Pet. 1 30
7-22-3w Lynda, D. W. Franchott 16 434
18-22-3w Hartley, Sinclair Oil 26 7140
Wells completed 8
Production 7800
Dry 4

GRADY COUNTY

23-5n-8w Edmondson, Skelly Oil 2 ..... gas
34-5n-8w Scott, Briscoe & Hall 1 ..... gas
11-4n-8w Williams, Magnolia Pet. 2 ..... gas
35-3n-5w Shamrock, Carter Oil 2 ..... gas

Lindsey, Carter Oil 2..... 240
23-5n-6w Roberts, Pauline Clark & Cowden 1..... dry
35-3n-5w Lindsey, Garvin Drlg. Co. 2.. 65
12-6n-7w Smith, Public Utilities, Clark & Cowden 1..... dry
23-4n-8w Mieur, Hall & Briscoe 1..... dry
27-5n-8w Chandler, Hall & Briscoe 1.. gas
14-4n-8w Pendley, Hall & Briscoe 2.... dry
27-3n-5w Kilgore, Clark & Cowden et al 1..... gas

Wells completed 12
Production 305
Dry 4
Gas 6
Gas production 102,000,000

STEPHENS AND COTTON COUNTIES

2-2n-5w Simms, Carter Oil 4 ..... gas
11-2n-5w Isherman, Knox Pet. 2..... dry
26-1n-9w Fleming, Magnolia Pet. 1.... dry
24-1s 9w Armstrong, Dierkes & Beard 4 gas
25-1s-9w Russell, Magnolia Pet. 3..... dry
7-1s-8w Dyal, Knox Pet. & Owl Oil 1-A ..... dry
19-1s-8w Brooks, Lone Star Gas 4..... dry
28-1s-8w Springer, Winkler & McQueen 3 25
32-1s-8w Blaydes, Carter Oil 6..... 15
32-1s-8w Stevens, Magnolia Pet. 6..... dry
Stephens, McMann Oil 8..... 35
34-1s-8w Burke, David Malernee 1..... dry
4-1s-7w Fee, Ballard & Coptaw 1..... dry
2-2s-8w Gilworth, Pace et al 1-A..... 150
5-2s-8w Miller, Empire G. & F. 7..... dry
13-2s-8w Fobb, Commercial Pet. 9-A.. 25
8-3s-6w Armstrong, Gant et al 2..... dry
29-2n-5w Rose, David Montgomery 1.. dry
32-1s-8w Blaydes, Amerada Pet. 4..... 15
22-1s-5w Emerson, Mudge Oil 6..... dry
12-2s-8w Fobb, Commercial Pet. 10-A.. 15
10-2n-9w Waters, Homaokla Oil 1..... dry
34-1n-9w Castle, Shaner Drlg. Co. 1.... dry
36-1s-9w School, Gant et al 2..... gas
26-1s-8w Harrison, Merchant Fain et al 1 ..... dry
32-1s-8w Storey, Empire G. & F. 5..... 35
11-2s-8w Nigh, Pace et al 1..... gas
18-2s-7w Bristow, Winkler & McQueen 1 ..... dry
36-2n-9w School, Texhoma Oil 1..... gas
2-2n-5w Goza, Carter Oil 2 60
14-1s-10w Indian, Ellis & Caraker 1.... dry
25-1s-9w Russell, Magnolia Pet. 6..... gas
36-1s-9w School, Carter Oil 1..... gas
11-2s-8w Parker, Magnolia Pet. 2..... dry
12-2s-8w Fobb, Magnolia Pet. ..... dry
31-2s-5w Halloway, Homaokla Oil 1.... dry

Wells completed 36
Production 375
Dry 20
Gas 7
Gas production 151,500,000

CARTER COUNTY

22-2s-3w Carpenter, Twin State Oil 2.. 570
30-5s-1e Farve, Amerada Pet. 22..... dry
Farve, Amerada Pet. 23..... 40
34-1s-3w Snyder, Magnolia Pet. 1..... 286
22-2s-3w Carpenter, Humble O. & R. 6.. 170
32-2s-3w Feagan, Strum Drlg. Co. 1.... 120
7-2s-2w Higgins, Coline Oil 5..... gas
18-2s-2w Pierce, Athey-Lively et al 1.. gas
8-3s-2w Mullen, Coline Oil 2..... 35
28-5s-1e Fish, Amerada Pet. 15..... 65
23-2s-3w Davis, Skelly Oil 1..... 25
5-3s-2w Cobb, Atlantic O. P. 3..... 50
22-2s-3w Lohman, Wirt Franklin 4.... 200
7-2s-2w Caughman, Roxana Pet. 1.... 65
27-2s-2w Noble, F. W. Merrick et al 1.. 12

Wells completed 15
Production 1638
Dry 1
Gas 2
Gas production 24,000,000

JEFFERSON COUNTY

4-6s-5w Brown, Ely et al 1..... dry
33-6s-5w Indian, A. C. Brown 1..... 890
Indian, A. C. Brown 2..... 200
Jones, Carter Oil 2..... 300
Seay, Gypsy Oil 10..... 100
Seay, Gypsy Oil 11..... 100
Seay, Gypsy Oil 12..... 450
Seay, Gypsy Oil 13..... 340
Seay, Gypsy Oil 14..... 50
34-6s-5w Seay, The Prairie O. & G. 5.. dry
33-6s-5w Seay, Hambro-Humble Oil 7.. 18
34-6s-5w Indian, Humble-Hambro Oil 3. 15
33-6s-5w Seay, Gypsy Oil 15..... 75
Seay, Gypsy Oil 16..... 125
Seay, Gypsy Oil 17..... 125
3-7s-6w Truitt, Colbert & Lyle 1..... dry

Wells completed 16
Production 2288
Dry 3

MISCELLANEOUS

Noble County—
30-24-1w Wilkins, Mid Co. Pet. 13.... dry
1-25-2w White, K-D Oil 1..... dry
3-24-1w Pettit, Comar Oil 11-W..... dry
30-24-1w Wilkins, Mid Co. Pet. 12.... dry
Caddo County—
3-5n-9w Surbeck, Magnolia Pet. 7..... 35
Comanche County—
30-2n-9w Price, Magnolia Pet. 4..... 25
Indian, Westheimer & Daube 2 dry
Price, Bridwell & Heydrick 1 15
30-2n-9w Indian, Carter Oil 1..... dry
Indian, Westheimer & Daube 1.. 50
36-2n-10w School No. 10, Magnolia Pet. 1 75
Pontotoc County—
6-3n-7e Isteneheyon, Lloyd & Smith 1 gas
Garvin County—
11-1n-3w Ringer, Magnolia Pet. 3..... 40
16-1n-3w Mauldin "A", Magnolia Pet. 7 30
21-4n-1w Florence, Bedman et al 1.... dry
16-1n-3w Harris, Magnolia Pet. 10..... gas
17-1n-3w Deryden, Carter Oil 6..... 20
Rogers County—
25-22-16 Long, Tuttle & Keppel 3..... 20
21-14-16 Brown, S. A. Lane 1..... dry
Washington County—
25-29-12 Connelly, G. W. Connelly Oil 4 5
31-28-14 Knisley, H. E. Mancill 5..... 10
30-28-14 Cato, Phillips Pet. 14 ..... dry
Nowata County—
20-26-16 Inerson, J. R. Shipley 2..... 2
35-26-15 Lett, V. R. Bays et al 1..... 5
10-25-16 Parish, Jno. & C. P. Shertzer 16 3
4-25-17 Halsell, Freedon Bros. 1..... gas
Cole County—
18-2n-9e Pate, Galbrith et al 1..... dry
Marshall County—
24-5s-5e Commerce Trust Co., Humble O. & R. 1 ..... dry
6-6s-6e Haddock, Magnolia Pet. 1.... dry

Wells completed 29
Production 838
Dry 13
Gas 3
Gas production 17,020,000

OSAGE COUNTY

Rigs

21-25-6e Sinclair Oil 3.
25-29-10 I. T. I. Oil 1.
32-26-12 Skelton & Moore 9.
15-24-8e McCune, Wormser et al 5.
1-23-8e Tidal Osage Oil 1.
12-23-8e Continental Oil 1.
5-23-9e Continental & Prairie 2.
8-23-10 Adlum et al 2.
2-21-8e Simmons et al 2.
11-21-10 Mid-Kansas Oil 6.
14-20-10 Sand Springs Home 1.
2-27-5e Phillips Pet. 13.
Skelly Oil 3.

Wells Drilling

21-25-6e The Prairie O. & G. 4, 5.
17-29-6e Tidal Osage Gas 17.
15-29-10 I. T. I. Oil 24.
21-28-10 Owen Osage Oil 361.
26-28-11 Owen Osage Oil 360.
2-27-5e Phillips Pet. 6, 9, 10, 14.
Skelly Oil 7.
26-27-5e Mid-Kansas Oil 10.
18-27-6e Kewanee Oil 14.
7-27-11 Owen Osage Oil 362.
1-26-7e Morton et al 1.
26-26-8e Petroleum Drlg. Co. 17.
21-25-6e Sinclair Oil 1, 2.
28-25-6e I. T. I. Oil 1.
Phillips Pet. 1, 2.
John L. Bird 1.
29-25-8e The Texas Co. 6.
Lewis Oil 7.
17-25-9e Foster, Davis & Landon 10.
36-25-11 Plymouth Pet. 4.
6-24-8e Osage Oil Corp. 1.
13-24-8e The Texas Co. 1.
24-24-8e Tidal Osage Oil 4.
29-24-8e Earnest McCarthy 1.
Continental Oil 4.
25-24-8e Sidwell et al 2, 16.
36-24-8e Foster, Davis & Landon 8.
20-24-9e Tidal Osage Oil 2.
29-24-9e Continental & Prairie 6.
28-24-10 Peters Pet. 4.
12-23-8e Peters Pet. 8.
16-23-10 Mid-Cont. Pet. 1.
25-23-10 Ross & Westherill 12.
16-22-9e Amerada Pet. 15.
2-21-8e Skelly & Moore 7.
7-21-9e Mitchell et al 1.
11-21-10 Tidal Osage Oil 4.
14-21-10 Okla. Natl. Gas 710.
19-21-12 Tidal Oil 23.
30-21-12 Elliott & Smith 23.
Barnsdall Oil 20.
13-20-10 L. C. Hivick 1.
29-20-10 Echo Oil 1.
5-20-11 Pioneer Pet. 5.
6-20-12 Grimes & Gillespie 8.
20-20-12 Devonian Oil 9.
28-20-12 Continental Oil 14.
29-20-12 Winona Oil 4.
Westland Oil 1-A.

Shut Down

1-26-9e Ike Johnson 1.
29-25-12 Titus et al 1.
28-24-8e Axelrod et al 2.
17-23-12 Silurian Oil 48.
20-22-10 Winemiller et al 3.
28-22-12 Kanupp et al 1.
Rigs, 13; wells drilling, 62; total, 75.

TULSA COUNTY

Rigs

23-19-10 Timothy, Holmes et al 2.
34-19-12 Mackey, Suppees et al 2-W.
16-18-13 Rentie, L. C. Hivick 3.
5-17-14 Hodge, Alboo Oil 1.
8-17-14 Hodge, Pataula Pet. 1.
4-16-13 Stewart, Kewanee O. & G. 16.
5-16-13 Bertholf, Thompson & Black 4.

Wells Drilling

35-22-12 Waldon, The Prairie O. & G. 4.
4-19-10 Unallotted, O'Reilly et al 3.
15-19-10 Island, Holmes et al 2.
23-19-10 Timothy, Holmes et al 1.
3-19-11 Page, Sand Springs Home 3.
17-19-11 Smith, Hutt & Hutt 6.
34-19-11 Incoe, J. W. McCulloch 7.
4-19-12 Strip, J. C. King 1.
24-19-12 Perryman, O'Brien et al 8.
30-19-12 Brown, Underwood et al 4.
3-18-12 Vance, S. E. Vance 17.
13-18-12 Ismall, W. C. Cates et al 3.
28-18-14 Drew, L. Green et al 1-A.
33-18-14 Hackey, Sac & Fox 4.
24-17-12 Tingle, Craig et al 2.
6-17-13 Oswalt, J. H. Hilt et al 1-A.
11-17-13 Owens, Holmes et al 1.
1-17-14 Berryhill, Prates 3.
4-16-13 Russell, Selby O. & G. 7.
4-16-13 Buck, Petroleum Co. 1, 13.
16-16-14 Williams, W. Brennan 1-A.
4-16-13 Payne, The Prairie O. & G. Co. 4.

Shut Down

17-19-11 Grayson, Pennok Oil 7.
20-19-11 Thomas, Pennok Oil et al 10.
28-19-11, Fulsom, P. W. Fusselman 1.
6-18-13 Davis, T. Henderson et al 1.
18-18-14 Burgess, Edwards et al 1.
36-17-12 Murray, Henry Oil 3.
27-17-14 Slinton, Sparks et al 1.
2-16-12 Sanderson, S. W. Anthony 2.
13-16-12 Unallotted, Winemiller et al 1.
4-16-13 Stewart, Pulaski Oil 4.
Rigs, 7; wells drilling, 33; total, 40.

OKMULGEE COUNTY

Rigs

35-16-12 Staley, W. B. Pine 2.
19-16-13 Grant, Leonard Pet. 3.
21-16-13 Bigpond, H. C. Detrick et al 1-A.
29-16-13 Stanley, J. W. McCullough, 1.
29-16-14 Tecumseh, Anglo-Tex & Wangerine 1.
12-15-12 Gray, Western Central Oil 1.
22-15-12 Kimble, Noble Oil 1.
34-15-12 Nubbie, J. J. Deaner 1.
35-15-12 Cornelius, Darby Pet. et al 2.
7-14-11 Farmer, W. E. Holmes Oil 1.
20-14-11 Sizemore, Evans, Daw et al 1.
23-14-11 Crossland, W. J. Sherry & Carter Oil 1-A.
35-14-11 Fisher, Crown Central Pet. 6.
14-14-12 Denson, Gray Oil 1-A.
34-14-12 Unallotted, G. A. Gifford 1.
36-14-12 Skelton, A. J. Hazlett et al 1.
8-13-12 Morton, H. C. Marcey 5.
32-11-12 Ashbury, Colorado Oil 2.
7-15-13 Fields, Devonian Oil 8.
18-15-13 Doyle, W. B. Pine 8.
21-15-14 Osborn, Jolly & Ogg 1.
32-14-13 Gibson, J. H. Gardner 2.
35-14-13 Checote, F. R. Smith, 1.
13-14-12 Gibson, The Prairie O. & G. 3.

Wells Drilling

18-14-12 Newton, G. & M. Oil 1.
17-13-11 Brazeel, The Prairie O. & G. 2.
24-16-12 Tiger, Okla. Natl. Gas 5.
8-15-11 Rorschach, Iron Mtn. Oil 1.
4-15-11 Gibson, Nowata O. & R. 4.
17-15-11 Gibson, Shaffer O. & R. 7.
21-14-11 Kellough, G. Simmons et al 1.
21-14-12 Colbert, H. C. Detrick et al 1.
22-14-12 Huckaby, Sinclair Oil 1.
Havercamp, T. A. Johnson 4.
25-14-12 Kanard, Hazlett & Campbell et al 1.
3-13-11 Anderson, Vincent et al 1.
25-13-11 Lewis, J. A. Swindler & Sons 5.
29-13-11 Milroy, Wighton & Long 1.
7-13-12 Grayson, H. G. Fair 4.
4-12-12 Tiger, Vierson et al 1.
7-12-12 Wilson, Morton & Co. 6.
Wilson, Independent O. & G. 4.
18-12-12 Kanard, Carter Oil 2.
Clark, Independent O. & G. 2, 4.
7-11-12 Hawkins, M. C. French et al 3.
7-15-13 Wisner, Devonian Oil 13.
28-15-13 Brown, Tidal Oil 4.
3-15-14 Rentie, W. B. Pine 1-A.
4-15-14 Beams, Transcontinental et al 1.
19-15-14 Harrison, A. W. Cline 1.
21-15-14 Garnett, Jolly & Ogg 1.
23-15-14 Jefferson, Sinclair Oil 17.
24-14-13 Ragan, J. L. Selby 8.
11-14-14 Rentie, Papoose Oil 7.
Rentie, J. E. Wallace 2.
14-14-14 Colbert, Mechling 3.
35-14-14 Anderson, J. L. Selby 30.
12-13-13 Alexander, Mid-Cont. Pet. 18.
30-13-13 Lee, R. G. Rapp 4.
15-13-14 Doyle, C. H. Lebow 12.
24-13-14 Johnson, Iron Mtn. Oil 15.
Scott, W. R. Sommerville 4-A.
27-13-14 Hill, A. Shelton 1.
29-13-14 Wiley, F. E. Cuseck 7.
9-13-15 King, W. R. Sommerville 1.
24-13-15 McNack, O. Henson 1.
11-12-13 Lewis, W. B. Pine 2.
13-11-13 Canard, Nicholson Corp. 2.

Shut Down

25-13-11 Tibler, The Prairie O. & G. 2.
20-16-12 Fee, Crider 1.
30-16-13 Houston, Carter Oil & Owens 1.
24-16-14 Lowery, E. J. Lambert 1.
14-15-12 Moore, Mid-Cont. Pet. 6.
20-15-12 Adams, D. D. Mickelson 6.
23-15-12 Peloche, Gray Oil et al 1.
14-13-11 Strip, Gibson & Zahniser et al 1.
3-11-12 Calloway, B. Martin et al 1.
17-11-12 Summers, Decius et al 1.
18-15-13 Doyle, Page Bros. Oil 1.
1-15-14 Charles, Independent O. & G. 11.
7-15-14 Brown, E. B. Grubbs 1.
18-14-15 Rentie, C. Smith 9.
27-13-14 Hill, Clarion Oil 6.
Rigs, 24; wells drilling, 60; total, 84.

SEMINOLE COUNTY

28-11-8e Williams, The Prairie O. & G. 1.
10-9n-5e Johnson, Magnolia Pet. 1.
24-9n-6e Carter, Gypsy Oil 1.
Dyer, I. T. I. Oil 2.
Carter, I. T. I. Oil 1, 2.
Dyer, Amerada Pet. 1.
Pahardy, Tidal Osage Oil 1.
Carter, Waite Phillips (Barnsdall) 1.
26-9n-6e Fixico, Independent & Tidal Osage 1.
8-9n-8e Cobb, Independent O. & G. 2.
8-9n-8e Buckner, Phillips Pet. 2.
18-9n-8e Jefferson, Gypsy Oil 1.
18-9n-8e Peter, Southwestern Pet. 2.
W. Jefferson Shaffer O. & R. 3.
25-8n-7e Logan, Dixie Oil 1.
31-8n-8e Amos, W. R. Ramsey 5.
32-8n-8e Parker, Magnolia Pet. 2.
9-7n-6e Litka, I. T. I. Oil 1.
1-7n-7e Sam, Wood & Hill 1.
6-7n-8e Davis, Magnolia & Atlantic 4.
Dindy, Superior Oil 1.

Wells Drilling

10-11-8e Davis, Transcontinental Oil 1.
17-11-8e Stepney, Gypsy Oil 1.
28-11-8e Williams, Continental Oil 3.
Williams, Gypsy Oil 1.
33-11-8e Williams, Carter & Pulaski 4.
34-11-8e Hill, McMan & Magnolia Pet. 6.
4-10-6e Madgett, Jarvis & Holm 1.
33-10-6e Davis, F. J. Searight 1.
5-10-8e Williams, Gypsy Oil 3.
Sampson, Gypsy Oil 5.
10-9n-5e Brown, The Texas Co. 1.
Ingram, Independent O. & G. 1.
15-9n-6e Noble, Superior Oil 1-A.
Noble, Tidal Osage Oil 1.
15-9n-6e Dyer, I. T. I. Oil 1.
15-9n-7e Jonah, Pure Oil 1.
17-9n-7e Bull, Sinclair Oil 1.
7-9n-8e Jefferson, Plover Drlg. Co. 2.
Cobb, Independent & Jarvis & Holm 2.
8-9n-8e Betherl, Twin State Oil 2.
17-9n-8e Johnson, Mid-Cont. Pet. 2.
Aldridge, Roxana Pet. 1.
18-9n-8e Island, Oklavania Oil 1.
Jefferson, Shaffer O. & R. 2.
15-8n-6e Ida, T. T. I. Oil 1.
14-8n-7e Davis, Gypsy Oil 1.
Norval, Magnolia Pet. 1.
Carolina, Magnolia Pet. 4.
Jackson, T. B. Slick 2, 3, 4.
15-8n-7e Carolina, Magnolia Pet. 3.
23-8n-7e Walker, Magnolia Pet. 1.
25-8n-7e Ligon, Dixie Oil 3.
9-8n-8e Miller, T. Atkins et al 1.
29-8n-8e Walker, Magnolia Pet. 3.
30-8n-8e Douglas, W. R. Ramsey 1.
31-8n-8e Salinda, W. R. Ramsey 1.
Amos, W. R. Ramsey 2.
32-8n-8e Parker, Magnolia Pet. 1.
Franz, Magnolia Pet. 5.
5-7n-8e Simon, Independent & Atlantic 1.
Harjo, Magnolia Pet. 2, 3, 4, 5.
Garner, Dixie Oil 1, 2.
Harjo, Amerada Pet. 1, 2, 4.
6-7n-8e Carolina, Homaokla Oil 3, 1.
Davis, Magnolia & Atlantic 3.
Knight "A", Dixie Oil 1, 2, 4.
Hawkins, P. & R. Corp. 1.
Gilstrap, Magnolia Pet. 1.
Hawkins, Magnolia 1.
7-7n-8e McIntosh, Atlantic O. P. et al 1.
8-7n-8e Turner, Magnolia Pet. 1.
15-8n-7e Main, The Prairie O. & G. 1.
14-8n-7e Porter, The Prairie O. & G. 1.

Shut Down

1-9n-7e Sanjo, F. J. Searight, 1.
31-8n-6e Pullatka, Superior Oil 1.
15-8n-7e Carolina, Magnolia Pet. 3.
30-8n-8e Bowlegs, Gardner Pet. 1.
31-8n-8e Sampson, W. R. Ramsey 2.
22-7n-7e Jackson, Magnolia Pet. 1.
6-7n-8e Hawkins, Buttram et al 1.
25-6n-6e Minton, T. B. Slick 1.
33-6n-6e Christy, Maxwell & Harvey 1.
6-6n-8e Winey, R. F. Garland & Co. 1.
24-5n-5e Nitley, Riverside Oil & Kinney 1.
Rigs, 23; wells drilling, 75; total, 97.

OKFUSKEE COUNTY

Rigs

27-12-11 Holmes, Hartman 1.
33-13-11 McCoy, Josey Oil 11, 12, 14.
Fields, Josey Oil 4.
4-11-10 Stidham, Foote & Daniels 1.
22-11-11 Holmes, Champlin O. & R. 8.
23-11-11 Lekowski, Frank Havel 1.
1-10-11 Robinson, T. A. Johnson & Umburn 1.

Wells Drilling

35-11-9e Alexander, The Prairie O. & G. 1.
30-11-10 Grovea, The Prairie O. & G. 1.
23-13-7e Byrd, Sinclair Oil 1.
11-13-8e Taylor, Mal-Da-Mac Oil 1.
28-13-8e Hill, Dalton & Baker 1.
17-12-7e Hennechuchee, Mid-Kansas Oil 1-A
14-13-8e Callahan Darby Pet. 1-A.
21-13-10 Coon, Johnson & Ashe & Atlantic 1.
1-12-9e Jones, Blakely O. & G. 1.
17-13-10 Harrison, Amerada Pet. 2.
28-12-10 Johnson, Central Natl. Oil 1.
3-12-11 Morgan, M. P. Evans et al 1.
7-12-11 Simmons, J. R. Burns 7.
13-12-11 Canare, Central Natl. Oil 3.
Sugar, Independent & Anglo-Tex 2-A, 10-A, 11-A, 1-B, 6.
Harjo, Amerada Pet. 12,13,14.
Looney, J. K. Leard 3.
Sugar, North Baltimore Oil 7.
16-12-11 Thomas, Windsor Oil 1.
32-12-11 Hulsey, Josey Oil 3.
Carolina, Josey Oil 2.
Fields, Josey Oil 2-A.
33-12-11 McCoy, Josey Oil 1.
33-12-11 Fields, Josey Oil 4.
35-11-9e Wind, Gilcrease Oil 1.
13-11-11 Holmes, Independent O. & G. 14.
22-11-11 Guy, Champlin O. & R. 5.
24-11-11 Fields, Phillips Pet. 17.
15-10-9e Beardon, Phillips Pet. 1.
33-10-9e Barnett, Arkansas Fuel Co. 2.
36-10-9e Palmer, Amerada Pet. 7.
16-10-11 Harjo, T. A. Johnson et al 1.
18-10-11 Simmer, Amerada Pet. 1.
7-10-12 Birdcreek, Guy Fisher & Carter 2.
1-11-8e Harris, Wilcox O. & G. 1.

Shut Down

14-12-8e Isaac, Western State Oil 1.
13-12-8e Bear, Dalton & Baker 1.
3-12-10 Hivem, Alex Bays et al 1.
8-12-10 Yarhola, Blakely et al 1.
23-12-10 Harjo, Blakely et al 1.
7-12-11 Simmons, J. R. Burns 4.
22-12-11 Barnett, Hartman & Mann 7.
33-13-11 McCoy, Josey Oil 10.
3-11-11 Fields, Barbara Oil 2.
13-11-11 Holmes, Independent 15.
22-11-11 Grayson, Champlin O. & R. 5.
24-11-11 Fields, Lyons Pet. 5.
21-10-9e Tecumseh, Mid-Cont. Pet. 1.
15-10-10 Tiplaw, Pratt & Burton 1.
26-10-10 Butler, Schrock & Jameson 1.
18-10-11 Alberty, Amerada, Morgan & Flynn 1.
Rigs, 9; wells drilling, 57; total, 66.

HUGHES COUNTY

Rigs

26-9n-9e Davis, Foster Inv. Co. & Independent 2.
29-8n-9e Carboge, Papoose Oil 1.
11-5n-8e Stewart, Parmenter et al 1.

Wells Drilling

1-9n-9e Cain, Barnsdall Oil 1.
Cain, Minnehoma Oil 3, 4.
Arbor, Josey Oil 5.
2-9n-9e Alexander, Independent O. & G. 2.
4-9n-9e Alexander, Papoose, Oil 10.
19-9n-9e Charles, I. T. I. Oil 1.
26-9n-9e Proctor, Independent & Darby Pet. 1.
Harjo, Transcontinental Oil 4, 6, 8, 9.
27-9n-9e Long, Gypsy Oil 2, 3.
Brown, Foster Inv. 1.
Long, Phillips Pet. 1, 3, 4.
Hill, J. W. McCullough 1.
10-9n-10 Lee, Detrick et al 1.
24-9n-10 Barnett, Roxana Pet. 1.
3-9n-11 Harjo, Tidal Osage Oil 1.
10-8n-9e Harnage, Sands Pet. 1.
14-8n-9e Long, Independent O. & G. 1.
25-8n-9e Harjo, Independent O. & G. 1.
29-8n-9e Lizzie Lower, Kingwood Oil 1.
18-8n-10 Irvine, Dixie Oil 4.
Diamond "AA", Dixie Oil 2.
Diamond "C", Dixie Oil 3.
Morrison, Independent O. & G. 2.
19-8n-10 Pickens, W. R. Ramsey 2.
32-8n-11 Bear, Johnson Ashe et al 1.
12-7n-9e Hawkins, J. W. McCullough 1.
30-5n-10 Pearson, Henry Oneis & Kerr 1.

Shut Down

31-9n-10 Riley, Sands Pet. 1.
4-9n-11 Harjo, Gibson & Zahniser 2.
17-8n-10 Carter, Robinson Lecher et al 2.
8-6n-10 Kite, Walton, Snyder & Marshall 1.
Rigs, 3; wells drilling, 38; total, 41.

MUSKOGEE & WAGONER

Rigs

6-16-17 Samuels, Mitchell Oil 1.
36-16-17 Brown, Barton et al 1.
29-15-15 Sango, Link Oil 6.
27-14-16 Cherry, O. T. Gilbertson 2.
5-14-19 Gardner, C. M. Bradley et al 1.

Wells Drilling

20-18-16 Hawkins, B. B. Wheeler et al 1.
31-18-16 Woodward, A. E. Carder 1.
25-17-16 White, Larsarskey et al 4.
29-17-16 Childers, Perry & Hartman 1.
19-17-17 Lewis, W. Sloman et al 1.
32-16-15 McDaniel, Rogers et al 1-A.
8-16-18 Chissoe, B. B. Wheeler et al 1.
33-15-15 Thompson, C. Brothers Oil 2.
33-15-18 Garrett, C. M. Bradley 1.
1-14-17 Sango, T-O Pet. 7.
30-14-19 Harris, E. M. Johnson 2.

Shut Down

7-17-15 McIntosh, M. A. Lowe 2.
14-17-16 Atkins, C. L. McMahon 5.
21-14-17 Dean, J. L. Slusher 1.
20-18-16 London, Boomer Oil 1.
Rigs, 5; wells drilling, 15; total, 20.

CREEK COUNTY

Rigs

15-19-7e Manuel, H. W. Skelly 1.
5-19-8e Noble, Bartlett & Mann 2.
6-19-8e McElroy, Mann & Smith 1.
13-19-8e Peters, Burlengame & Sharp 5.
5-18-7e Atkins, Gem Oil 24.
26-17-8e Cobb, Barnsdall Oil 3, 4.
17-15-8e Roberts, Eastern Oil 5.
Yarbola, Pure Oil 15, 16.
Wilson, Roxana Pet. 11.
19-15-8e Haloway, F. L. Maire et al 1-A.
20-15-8e Beaver, Skelly Oil 1-A.
12-14-8e Bruner, C. G. Tibbens 7, 8, 9.
12-14-8e McKan, Skelly Oil 13.
Brown, T. P. C. & Co. 4.
13-18-9e Jones, Eva Bell Oil 3.
30-18-9e Sherman, H. U. Bartlett 1-A.
4-18-13 Hawkins, Devonian Oil 1.
21-17-9e Harjoche, T. P. C. & O. Co. 7.
24-17-10 Dawson, J. H. Wright 9, 10.
26-17-10 Bucktrot, H. C. Wilson 2.
16-17-11 Wilson, M. Mead et al 1-A.
30-17-11 Garald & Nichols, M. W. Evans 1.
7-16-9e Sango, W. R. Davis 1.
20-16-9e Barnett, Dickerson et al 1.
21-16-9e Hendrickson, Jackson & Wise 3.
12-16-10 Unallotted, Sherry et al 1.
30-16-11 Ricks, Sheridan Oil 1.
30-15-9e Unallotted, C. G. Tibbens 25.
1-15-10 Ashbury, H. C. Wilson 1.
29-14-10 Walker, Twin State Oil 1.
Walker, The Texas Co. 1.
30-14-10 Craig, Wood Oil 2.
Walker, The Prairie O. & G. 1.
22-17-9e Self "A", The Prairie O. & G. 6.

Wells Drilling

21-17-7e Litchfield, The Prairie O. & G. 39.
3-17-9e Hope "A", The Prairie O. & G. 1.
32-18-7e Richards, Magnolia Pet. 4.
12-19-8e Grayson, J. B. Grieves 2.
13-19-8e Ross, Gled Oil 3.
Peters, Burlengame & Sharp 4.
Weaver, The Texas Co. 1.
14-19-8e Miller, Devonian Oil 2.
18-19-8e Canard, F. R. Billingslea 1.
5-18-7e Rector, Riverside O. & R. 1.
7-17-8e Vance, Magnolia Pet. 1.
12-18-8e King, Pure Oil 1.
15-17-7e Stewart, Mid-Cont. Pet. 25.
16-17-7e Dacon, Sinclair Oil 13.
22-17-7e Fife, Tidal Oil 5.
5-17-8e Hendrickson, Roxana Pet. 1.
12-17-8e Bishop, Aztec Oil 1.
14-17-8e Johnson, Atlantic Oil Prod. 7.
Freeman, Transcontinental Oil 3.
Fry, Alvard & West 3.
17-17-8e Wright, F. R. Billingslea 1.
18-17-8e Toney, Roxana Pet. 1.
19-17-8e Cubbie, Transcontinental Oil 1.
22-17-8e Johnson, Savoy Oil 2, 3.
26-17-8e Cobb, Barnsdall Oil 2.
27-17-8e Bigpond, Inter-Ocean & J. W. McCulloch 2, 3.
W. Alec, Barnsdall Oil 2.
Bruner, Joemack Oil 1, 2.
Bruner, Southwestern Pet. 1.
E. Alec, Barnsdall Oil 4, 5.
35-17-8e Marshall, Gypsy Oil 1.
10-16-7e Marshall, Gypsy Oil 1.
10-16-7e Williams, Magnolia Pet. 11.
5-16-8e Emarthla, Magnolia Pet. 4.
29-16-8e Hawkins, Riverside Oil 1.
Fixico, Atlantic O. P. 2.
6-15-7e Wattie, Magnolia Pet. 1.
25-15-7e Charles, Phillips Pet. 2.
25-15-8e Herrod, C. G. Tibbens 2.
26-15-8e Narchubby, Bu-Vi-Bar 3, 2.
Starr, Bu-Vi-Bar Pet. 2.
30-15-8e Bigpond, Lima O. & G. 1-A.
Helacoweney, Phillips Pet. 2.
1-14-8e Brown, C. G. Tibbens 1.
2-14-8e Davy, J. W. Henry 3.
Ponds, Gypsy Oil 5, 6.
14-14-8e Durant, C. G. Tibbens 1-A.
10-19-9e Ford, C. L. McMahon 1.
18-19-9e Sewell, Roxana 1-A.
30-19-9e Boyd, Kingwood Oil 1.
1-18-9e Elliott, Kilgore et al 1.
36-18-9e Richard, Madden & Madden 1.
2-18-11 Sherill, Sheridan Oil 2.
10-18-11 Unallotted, Wells et al 1.
6-18-12 Gray, Gypsy Oil 14, 17, 18.
Sango, Industrial Oil 1-A, 2-A.
19-17-10 Dickson, Independent O. & G. 1.
Dickson, Tidal Oil 4.
23-17-10 Kochaney, R. R. Kirshner 1-A.
Holden, J. H. Wright 3.
24-17-10 Dawson, J. H. Wright 8.
Tahkaney, J. H. Wright 6.
3-17-11 Fife, S. J. Smith 1.
8-17-11 Freeman, Ireland et al 5, 6.
11-17-11 Hayes, Terrell et al 4.
17-17-11 Wacocha, Shaffer O. & R. 4.
21-16-9e Greenwood, Joemack Oil 2.
32-16-9e Hamilton, N. Y. Okla. Oil 3.
1-16-11 Anthis, Wilcox & Oswait 3.
12-16-11 Ricks, H. U. Bartlett 1.
17-16-11 Morgan, Crandell, Marta & Shaffer O. & R. 1-A.
30-15-9e Unallotted, C. G. Tibbens 2, 23, 24, 26, 27.
22-15-10 Clark, J. H. Rebold 2.
5-14-9e Thompson, C. G. Tibbens 1.
7-14-9e Renhart, Phillips Pet. 1.
31-14-9e Wright, Transcontinental Oil 1.
11-14-10 Webb, H. George et al 1.
30-14-10 Scott, Donnelly et al 1.
29-14-10 Bear, Independent O. & G. 1.
32-14-10 Walker, Mid-Cont. Pet. et al 4.
Walker, Empire G. & F. 2.

Shut Down

14-18-8e Haslip, J. B. Chronic et al 1.
12-14-8e Ponds, Haskill Oil 4.
31-18-9e Walker, J. A. Hull & Co. 1.
30-18-9e Gates, H. U. Bartlett 1.
27-18-10 Allen, Vaughn & Wheeler 6.
15-18-11 Snow, Redgraves et al 1.
14-18-11 Tiger, O. N. White 1-A.
32-18-11 Frew, Gross et al 1.
36-17-9e Bright, D. B. Mason et al 2.
7-17-11 McDougal, M. P. Evans 1.
13-17-11 McIntosh, A Sheldon 1-A.
36-16-9e Allen, Williams & Bell 1.
7-16-11 Stell, Chief Drlg. Co. et al 1.
24-15-9e Edwards, J. W. McCullough 1.
5-14-10 Groom, Evans et al 1.
Rigs, 38; wells drilling, 109; total, 147.

PAWNEE COUNTY

Rigs

22-23-4e Zoldoskie, Donahue & Carter Oil 4.
35-22-6e Dobson, Devonian Oil 1.
25-2-6e Morris, Homa Wood Oil 1.
32-21-8e Myers, Adamson C. O. & G. 3.
2-20-6e Newell, Magnolia Pet. 1.
16-20-6e Burgman, Jim Glenn Oil 4.
21-20-6e Freeman, Josey Oil 5.
33-20-5e School land, Marland Oil 1.

Wells Drilling

10-20-5e Nechler, The Prairie O. & G. 1.
10-20-8e McNeal, The Prairie O. & G. 8, 6.
15-20-6e Burton, The Prairie O. & G. 1.
27-23-3e Donahue, Magnolia Pet. 1-A.
33-23-3e Miller, Watchorn O. & G. 13, 14.
4-22-3e Miller, Magnolia Pet. 9, 10.
5-22 3e Altaffer, Magnolia Pet. 2.
Wolfe, Champlin Refg. Co. 1.
13-23-4e School land, Magnolia Pet. 1.
4-23-5e McCullough, Mid-Kansas Oil 2.
Krow, Magnolia Pet. 1.
16-22-4e School land, Magnolia Pet. 1.
3-22-5e Ackerman, E. B. Rich et al 1.
31-22-7e Canfield, Bu-Vi-Bar Pet. 1.
8-21-6e Robertson, Dixie Oil 1.
31-21-8e ——————, Adamson C. O. & G. ?
35-21-8e Wells-Jones, The Texas Co. 31.
8-20-6e Fugate, Magnolia Pet. 4.
B. M. Fugate, Magnolia Pet. 2.
Privett, Magnolia Pet. 4.
19-20-6e White, Champlin O. & R. 1.
21-20-6e Lesher, Magnolia Pet. 2.
22-20-6e Smith, Westerly Oil 5.
36-20-6e Garland, Cortez Oil 1.
1-20-7e Mullendore, Gypsy Oil 9.
11-20-7e School land, Block & Carnhan 16, 17.
3-20-8e Arnold, Tidal Oil 3.
5-20-8e Lee, Sun Ray Oil 1-A.
6-20-8e Cotton, Black et al 1-A.
7-20-8e Childers, Minnehoma Oil 4.
21-20-8e Webb, McNamara & West 1.
23-20-8e Van Eman, Selby O. & G. 4.
28-20-9e Stoneman, Shaffer O. & R. 3.

Shut Down

33-23-3e Brown, Watchorn O. & G. 1.
33-23-3e Miller, Watchorn O. & G. 7.
5-23-5e Phillips, Haley, Garber & Pulse 3.
31-21-8e Havercamp, J. B. Grieves 2.
35-21-8e Norman, Gypsy Oil 5, 7.
28-20-6e White, Davis Drlg. Co. 1.
2-20-7e Peacock, Enfisco Oil 1.
4-20-7e Hallett townsite, W. A. McCabe et al 1.
11-20-7e Rogers, Block & Carnhan 1-A.
6-20-8e George, Producers Consol. Oil 1-A.
24-20-8e Wasson, Southwestern Oil Fields Corp. 19.
Rigs, 8; wells drilling, 49; total 57.

KAY COUNTY

Rigs

21-29-1w Duncan, Comar Oil 10, 12.
5-28-1w Biddle, Comar Oil 5.
Lawrence, Comar Oil 2.
28-28-2e Huddleson, John Stark et al 1.
4-27-1w Kelly, Arkansas Fuel Oil 4.
9-27-1w Brown, Harris & Hahn 4.
10-27-1w Moore, Black Gold Oil 3.
16-27-1w Barr, Ostot et al 2.
1-26-2w Richmond, Marland & Amerada 4.

Wells Drilling

32-28-5e Milde, Waite Phillips & Marland 1.
22-27-4e ——————, O'Haver et ai 1.
1-26-2w Smith "A", The Prairie O. & G. 7.
13-29-4w Olson, Mariand Oil 1.
20-29-1w Day, The Texas Co. 2.
Day, Comar Oil 1.
21-29-1w Priboth, Comar Oil 7, 10.
Duncan, Comar Oil 6, 11.
21-29-1w Harvell, Comar Oil 8.
16-29-1e School land, Wentz Oil 1.
17-29-1e Swinson, Harris & Hahn 1.
29-29-1e Meyers, Carter Oil 1.
30-29-1e Hennessey, Junction Oil 2.
20-28-2w Smith, Mississippi Valley Oil 1.
5-28-1w Bechtel, Comar Oil 1-W, 3.
Townsite, Braman Oil 1.
31-28-1w Bebb, D. W. Moore et al 1.
6-28-1e Wolfe, McComas et al 1.
33-28-1e Hans, Carter Oil 1.
31-28-3e Street, Davis Drlg. Co. 1.
4-27-1w Kelly, Arkansas Fuel Oil 2.
Case, Polling & Denny 3.
5-27-1w Savage, Polling & Denny 1.
8-27-1w Jameson, Harris & Hahn 2.
9-27-1w Burkholder, The Texas Co. 2.
Brown, Harris & Hahn 3.
Geiger, Blackwell O. & G. 5.
Kumler, Blackwell O. & G. 6.
10-27-1w Moore, Black Gold Oil 2.
16-27-1w Skelton, Manahan et al 3.
27-27-1w Peckham, Dance et al 1.
32-27-1w Chambers, Harris & Hahn 1.
3-27-2e Balzar, Mississippi Valley Oil 1.
1-26-2w Hockstater, Mariand Oil 1-A.
12-26-2w Hubbard, Marland Oil 5.
North, Marland Oil 2-A, 3-A, 4, 5.
28-26-1w Barclay, Tom Palmer et al 1.
32-26-2e McNeil, Ponca Lee Oil 1.
16-25-2w Thomas, Marland Oil 6.
16-25-2w School land No. 24, Marland Oil 7.
22-25-2w Siler, Twin State Oil 5.
15-25-1w McDaniels, Tonkawa Dev. Co. 1.
28-25-1w Gardner, Gypsy Oil 1.
Mahoney, Wentz Oil 9.
Siler, The Texas Co. 2.
33-25-1w School land, Cosden & Marland 10.
35-25-1w Endicott, T. B. Slick 7.
14-25-1e Little Chief, O'Kansas Oil 1.

Shut Down

21-29-1w Priboth, Comar Oil 2.
25-29-1e Smith, Stroanyder et al 1.
5-28-1w Orr, Comar Oil 1.
11-28-1e Lowery, Okla. Northern O. & G. 1.
3-28-3e Eaton, Parkhurst & Graham 1.
7-27-1w Bailey, Ostot Dev. 1.
16-27-1w Barr, Manahan et al 2.
Slocum, Continent O. & G. 1.
18-27-1w Johnson, Una Lee Oil 1.
6-26-1w Glasgow, Natl. Union Oil 1.
7-26-1w Kaney, Blackwell O. & G. 1.
16-26-3e School land, Souligny et al 1.
15-25-2w Thomas, Marland Oil 7.
34-25-1w Endicott, Pennok Oil 2.
Rigs, 10; wells drilling, 68; total, 78.

PAYNE COUNTY

Rigs

12-19-1w Combs, Tidal Oil 1.
13-19-4e Stover, Roxana Pet. 5.
14-19-4e Stephenson, Mid Cont. Pet. 1.
24-19-4e Pleasants, Magnolia Pet. 4.
26-18-3e Lester, Empire G. & F. 2.
Waltman, T. C. M. Oil 2.
10-18-4e Cole, Deep Rock Oil 1.
7-18-5e Goss, P. & R. Corp. 2-A.
5-17-4e Flint, Mulberry Oil 3.

Wells Drilling

23-20-4e Windstaff, Wentz Oil 1.
13-19-4e Stover, Roxana Pet. 2, 3, 4.
14-19-4e Shannon, Magnolia Pet. 1.
Erwin, Olean Pet. 2.
23-19-4e Ellis, Olean Pet. 2.
Stover, Magnolia 1.
24-19-4e Pleasants, Magnolia Pet. 2, 3.
Bolton, Olean Pet. 2, 3.
36-19-4e School land, Magnolia Pet. 1.
8-19-5e Walker, Magnolia Pet. 1-B.
14-19-5e Gero, Twin State Oil 1.
35-19-5e Laughlin, Josey Oil 11.
36-19-5e Long, Josey Oil 5.
22-18-3e Nelson, J. A. Hull Oil 1.
Derry, Deep Rock Oil 5.
Shannon, Deep Rock Oil 2.
Boyles, Deep Rock Oil 5.
Posey, Deep Rock Oil 1.
Givens, Deep Rock Oil 1, 2.
Haley, Amerada Pet. 4.
Haley, Mulberry Oil 3.
Ostrander, Pure Oil 3.
26-18-3e Barth, Deep Rock Oil 3, 4.
Morehead, Deep Rock Oil 1-A.
Lester, Empire G. & F. 1, 3.
27-18-3e Ethridge, Deep Rock Oil 2, 1.
1-18-5e Laughlin, Home Gas Co. 2.
2-18-5e Busbee, Josey Oil 2.
7-18-5e Goss, Twin State Oil 1.
Blue, Mariand Oil 3.
2-18-6e Lorett, Blauner & Hartley 1-A.
8-18-6e Walsh, Consolidated Drlg. Co. 1-A.
6-17-4e Strip, Mulberry Oil 1.
Payne, Magnolia Pet. 4.
33-17-4e Griswold, Mid-Kansas Oil 1.
26-18-3e Waltman, T. C. M. Oil 1.

Shut Down

22-20-2e Catta, Colorado O. & G. 1.
4-19-1w Kinnemon, Keiter-Foster Oil 1.
21-19-1w Lewis, Ponca O. & G. 1.
8-19-5e Garr, Garr Oil 4, 5.
1-18-5e Laughlin, Josey Oil 4.
27-18-6e Culbertson, McGill et al 1.
Rigs, 9; wells drilling, 51; total 60.

LINCOLN COUNTY

Rigs

25-15-3e Lillibridge, Wilcox O. & G. 1.
34-15-5e Sporleder, Magnolia Pet. 4.
8-15-6e Earp, Mid-Cont. Pet. 5.
11-14-6e Caves, Gypsy Oil 12, 13.
5-12-3e Jones, Wilcox O. & G. 2.
1-12-5e Thompson Independent and J. W. McCullouch 1.

Wells Drilling

25-15-5e Sproleder, the Prairie O. & G. 2.
19-17-3e Sutton, Roy Willis et al 1.
33-17-6e Messawat, Independent O. & G. 1.
26-15-5e Rittenhouse, Flynn & Morgan 1.
34-15-5e Sproleder, Magnolia Pet. 3.
M. & F. Sproleder, Magnolia Pet. 7.
35-15-5e Caves, Gypsy Oil 9.
A. Sproleder, Magnolia Pet. 1.
36-15-5e School land, Wentz Oil 1.
5-15-6e Howard, Independent O. & G. 2.
6-15-6e Earp, Carter Oil 3.
7-15-6e Ford, Skelly Oil 5.
8-15-6e Earp, Mid-Cont. Pet. 3, 4.
16-15-6e School land, Sinclair Oil 1.
7-14-4e Norton, T. B. Slick 1.
2-14-5e Hopkins, Amerada Pet. 4.
Hopkins, Skelly Oil 8.
Hopkins, The Texas Company 5, 8, 1-A, 2.
Bigwater, Twin State Oil 9.
3-14-5e Belles, Amerada Pet. 7.
Belles, Magnolia Pet. 1, 3, 4.
Bagwell, Selby & Southwestern 12
4-14-5e Thompson, Magonlia Pet. 5.
Strough, Pure Oil 1.
Strough, The Texas Company 2.
8-14-5e Martin, Magnolia Pet. 1.
10-14-5e Chapman, Magnolia Pet. 1.
M. & F. Chapman, Magnolia Pet. 1.
Davenport Townsite, Magnolia Pet. Co. 1.
Davenport Townsite, Magnolia Pet. Co. 1.
10-14-5e Patterson, Phillips Pet. 4, 5.
Nickel, Shaffer O. & R. Co. 4, 5.
11-14-5e Caves, Gypsy Oil 11.
Roberton, Southwestern Pet. 3.
16-14-5e School land, Magnolia Pet. 1.
31-14-5e Deane, Soutnwestern Pet. 1.
22-14-6e Sac & Fox, School land, Wilcox O. & G. 3.
7-13-2e Ewing, Douglass Oil 1.
12-13-6e Reeves, Amerada Pet. 1.
31-12-6e Bentley, J. W. McCullouch 1.

Wells Shut Down

3-14-5e Stout, The Prairie O. & G. 19.
20-17-6e Johnson, Hiram C. Wilson 1.
5-16-5e Van Camp, T. P. C. & O. Co. 1.
36-15-4e Cuil, Ruby et al 1.
35-15-5e Caves, Gypsy Oil 7.
Sowards, Phillips Pet. 1.
36-15-5e Johndah, Amerada & Marland 1.
School land, Mid-Kansas Oil 1.
8-15-6e Earp, Mid-Cont. Pet. 1.
15-15-6 Hubbard, Johndahl 1.
1-14-5e Keeler, Devonian Oil 1, 2.
Powers, Sinclair Oil 1.
3-14-5e Belles, Magnolia Pet. 2.
Rigs, 7; wells drilling, 62; total, 69.

GARFIELD COUNTY

Rigs

36-23-5w Nelson, Ostot et al 1.
13-22-4w School land, Mid-Cont. & Marland 57, 60.
Walker (North), Sinclair Oil 40.
36-22-4w Kisner, Sinclair Oil 7.
16-22-3w School land, Hooper-Chappel 1.
18-22-3w Hartley, Sinclair Oil 28, 29, 30.
31-22-3w McLean, Imo Oil 7.
11-21-4w Fee, Beeple et al 1.
5-21-3w Cain, Pender Pet. 2.
8-21-3w Bartlea, Dieckwald Oil 1.
19-22-3w Whitney, Sinclair Oil 6.

Wells Drilling

32-24-4w Brunkin, Shaffer-Gardner 1.
14-23-3w Gorusch, Fogar Oil 1.
34-24-3w Hayes, Roxana Pet. 1.
15-23-5w Hennessey, Wilcox O. & G. 1.
6-23-4w Chevelier, Haley, Garber & Pulse 1.
29-23-4w Bunker, Roxana Pet. 1.
31-23-4w Johnson, Bu-Vi-Bar Pet. 1.
19-23-3w Garber, Marland Oil 1.
3-22-5w Swinery, Ashby & Barr 1.
12-22-4w Wishard, Mid-Cont. Pet. 17, 18.
Wishard, The Prairie O. & G. 11, 12.
1-22-4w Johnson, The Prairie O. & G. 2.
13-22-4w School land, Mid-Cont. & Marland 59,62.
Walker (North), Sinclair Oil 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39.
Wolfe, Roxana Pet. 4-W.
15-22-4w Searcy, Magnolia Pet. 3.
24-22-4w Belveal, Healdton Pet. 32.
7-22-3w Marley, Chas. Knox 6.
18-22-3w Schroeder, Roxana Pet. 3, 1-H, 1-L, 6-L.
Hartley, Sinclair Oil 22, 27, 31.
19-22-3w Crews, Crews Heirs Oil 18.
Kisner (East), Sinclair Oil 15, 25
30-22-3w Burns, Sinclair Oil 1.
31-22-3w Morrison, Sinclair Oil 10.
McLean, Imo Oil 6.
12-21-5w Smith, Tidal Oil 1.
22-21-3w Detwiler, Slick Harrington et al 1.
11-20-8w Secor, Garfield Buel et al 1.
2-20-5w Fee, Sinclair Oil 1.
16-20-4w ——————, Mid-Cont. Pet. 1.

Wells Shut Down

22-24-6w Zalondek, Wilcox O. & G. 1.
10-24-4w Meyers, Sinclair Oil 1.
17-23-8w Dyche, Jack Reid et al 1.
26-23-7w Cox, Katherine Oil Synd. 1.
6-23-4w Hess, Weir & Wood 1.
35-23-3w Carter, Failing & Lawson 1.
1-22-4w Seaman, Hopper et al 1.
13-22-4w School land, Mid-Cont. & Marland 56.
Wolfe, Roxana Pet. 5-W.
14-22-4w Dively, Sinclair Oil 5.
24-22-4w Beggs, Champlin Refg. 34.
Dively, Carter Oil 53.
27-22-4w Peters, Hopper et al 1.
18-22-3w Schroeder, Roxana Pet. 10-W, 18-W.
2-21-7w Montgomery, Frank Frantz 1.
31-21-5w Vanderwork, E. A. Summers 1.
12-21-4w Schriver, Beopie et al 1.
7-20-6w Semrad, O. O. Owens 1.
9-20-4w Looman, Marland Oil 1.
13-20-4w Faramel, Summers et al 1.
Rigs, 14; wells drilling, 70; total, 84.

GRADY COUNTY

Rigs

31-10-8w Thompson, Hawkins & Young 1.
10-9n-6w Baker, Traves et al 1.
23-5n-8w McCaughtry, Stogner et al 2.
Sanford, American Drlg. Co. 6.
35-5n-8w Duke, Magnolia Pet. 2.
14-4n-8w Pendley, Magnolia Pet. 1.
5-3n-5w Dutton, Garvin Drlg. Co. 1.
27-3n-5n Kilgore, Clark & Cowden et al 3.

Wells Drilling

3-4n-8w Dryden, The Prairie O. & G. 1.
22-5n-8w Pooler, The Prairie O. & G. 3.
23-5n 8w Farwell, Magnolia Pet. 2.
Edmundson, Skelly Oil 3.
Edmundson, Okla. Nat. Gas. 3.
24-5n-8w Smith, Noble & Westervelt 2.
25-5n-8w Reed, Nichols Oil & Drlg. Co. 2-A.
34-5n-8w Scott, Carter Oil 1.
35-5n-8w Smith, Magnolia Pet. 5.
Duke, Skelly Oil 2.
10-5n-7w Kleeman, Badgett & Hughes 1.
8-5n-6w Thomas, Becker-Reed Oil 1.
14-4n-8w Pendley, Magnolia Pet. 1.
11-3n-8w Shortlea, Pauline, Clark & Cowden 1.
5-3n-5w Gardenshire, Carter Oil 1.
8-3n-5w Horton, Carter Oil 1.
27-3n-5w Cochran, Magnolia Pet. 1.
35-3n-5w Abernathy, Carter Oil 1.
Simms, Clark, Cowden & Melton Bros. 2.

Wells Shut Down

2-8n-8w Bray, John Schwartzfischer 1.
15-5n-8w Goldsmith, Manderville et al 1.
33-5n-8w Edmundson, Skelly Oil 1.
35-5n-8w Dryden, J. B. Nichols Oil 1.
5-3n-5w Dutton, Sinclair Oil 1.
Rigs, 8; wells drilling, 24; total, 32.

COMANCHE COUNTY

Rigs

34-4n-10w Gamble, John Graham 1.
30-2n- 9w Indian, Continental Oil 2.

Wells Drilling

30-4n-10w Hinds, Clyde Becker 1.
32-4n-10w Roll, Cochran & Abernathy 1.
3-3n-10w Hallum, Becker et al 3.
4-3n-10w Saunders, Cook & Graham 1.
28-3n-9w Markle, Day Oil 1.
20-2n-10w School, Ashcraft et al 1.
24-2n-10w Schultz, Cardinal Oil 1.
27-2n-10w Blair, J. I. Howard 1.
6-2n- 9w Austin, Harry Hanbury 1.
30-2n- 9w Hardy, Magnolia Pet. 1.
30-1s-13w Cox, Mid-Kansas Oil 1.

Wells Shut Down

35-4n- 9w Warehime, Daisy Bell Oil 1.
33-3n-10w Hendricks, Mid-Kansas Oil 1.
10-2n-10w Spitler, Danciger Oil 1.
29-1n-12w Bentley, Bentley et al 1.
Rigs, 2; wells drilling, 15; total, 17.

PONTOTOC & GARVIN COUNTIES

Rigs

4-4n-6e Daggs, Healdton O. & G. 1.
5-4n-6e McAlister, Pilgrim Pet. 1.
16-1n-3w Harris, Magnolia Pet. 11.
17-1n-3w Derryberry, Mid-Cont. Pet. 2.

Wells Drilling

24-5n-6e Nelson, Boles & Smith 1.
17-4n-6e Phillips, Bryan et al 1.
14-4n-7e Norris & Beck, Howartn O. & G. 1.
31-4n-7e Blackburn, Loss Oil 1.
35-3n-2e Franklin, T. P. C. & O. Co. 1.
32-3n-3e Hensley, Cosden et al 1.
1-3n-6e Greenwood, Lloyd & Smith 1.
16-1n-3w Harris, Magnolia Pet. 8, 9.
Bailey, T. P. C. & O. Co. 1-A.
Butts, T. P. C. & O. Co. 3.
17-1n-3w Deryden, The Texas Company 11.
21-1n-3w Boutwell, T. P. C. & O. Co. 1.
5-1n-1n Christner, L. D. Jones 1.

Wells Shut Down

28-5n-5e Copeland, La Salle et al 1.
25-5n-6e Patterson, Gillette & Krueger 1.
18-4n-6e McClure, Bryan & Gillette 1.
28-4n-7e Faulkner, Hughes et al 2.
28-3n-6e Lloyd, O. F. Smith 1.
Rigs, 4; wells drilling, 19; total, 23.

STEPHENS & COTTON COUNTIES

Rigs

1-2n-4w Conner, Danciger Oil 1.
31-2n-4w Jefferson, Lewis Clarke Pet. and C. W. Montgomery 1.
5-1n-9w Borovenski, Red Seal Ref. 1.
13-1n-9w School, Pierce & Brown 1.
25-1n-9w Harris, Magnolia Pet. 11.
9-1n-8w Heiser, E. N. Rust 1.
21-1s-10w Johns, McBee & Peacock 1.
35-1s-8w Hanson, Brannon et al 4.
21-2s-7w Johnson, Magnolia Pet. 1.
33-3s-6w Melton, Burris & Stahl 1.

Wells Drilling

26-2n-9w Richardson, Magnolia Pet. 1.
2-2n-5w Knox-Sims, Carter Oil 2.
Garvin-Simms, Carter Oil 6.
Green, Carter Oil 3.
Hervey, Carter Oil 1.
6-1n-8w ——————, Beasley & Lane 1.
2-1n-5w Payne, Dresser et al 3.
32-1n-5w Charleston, Magnolia Pet. 1.
22-1s-9w Tis-So-Ya, Magnolia Pet. 4.
25-1s-9w Russell, Magnolia Pet. 5.
26-1s-9w Branch, Garvin Drlg. Co. 1.
35-1s-9w Dolch, Gant et al 1.
20-1s-8w Brittian, Malernee & Dunlap 7.
Brittian, Safety First Oil 7.
28-1s-8w Nelson, V. A. Kidney 1-A.
Voss, Guy Brown 3.
29-1s-8w Stephens, Magnolia Pet. 2.
36-1s-5w Skelly, Skelly Oil 28.
34-1s-5w McClanahan, Skelly Oil 1.
Ziegler, Magnolia Pet. 18.

11-2s-9w Gunn, Pauline Oil 1.
2-2s-8w Dare, Pace-Texhoma Oil 1.
Houston, Pace-Texhoma Oil 1-A.
4-2s-8w Lester, Muse et al 1-A.
11-2s-8w High, Pace et al 1.
12-2s-8w Fobb, Magnolia Pet. 2.
8-2s-6w Armstrong, Gant et al 1.
3-2s-5w Brown, Magnolia Pet. 3.
8-2s-4w Cobb, Magnolia Pet. 9.
11-3s-9w Davis, Continental Oil 1.
2-3s-6w Florence, Gibbon, Johnson & Carter Oil 1.

Wells Shut Down

25-2n-9w Turner, Flowers et al 1.
23-1n-9w Brown, Steve Linson 4.
29-2s-7w Bristow, Womack 1-A.
11-2s-5w Martin, Magnolia Pet. 4.
13-4s-10w Cooper, W. B. Lindsey 1.
9-5s-10w Johnson, Barker & Eaton 1-A.
9-1n-8w Scruggs, E. N. Rust 1.
Rigs, 10; wells drilling, 38; total, 48.

CARTER COUNTY
Rigs

18-1s-3w E. Hardin, Magnolia Pet. 2.
N. Hardin, Magnolia Pet. 2.
31-1s-3w Moore, Magnolia Pet. 1.
34-1s-3w Fish, Magnolia Pet. 3, 4.
Parnell, Simpson & Fell 2.
3-2s-3w Pruett, Wirt Franklin & Prairie 1.
22-2s-3w Carpenter, Wirt Franklin 6.
23-2s-3w Lohman, Magnolia Pet. 10.
7-2s-2w Pierce, Coline Oil 9.
Watkins, Iowa Oil 2.
8-2s-2w Pierce, Skelly Oil 1.
16-2s-2w McCoy, Magnolia Pet. 1.
27-2s-2w Ackers, F. W. Merrick et al 1.

Wells Drilling

19-1s-3w Eason, Atlantic O. P. 1.
Hardin, Magnolia Pet. 5.
Winters, Magnolia Pet. 1-A.
33-1s-3w Lusk, Humble O. & R. 4.
34-1s-3w Hernstadt, Gilmer 1.
McClish, Gypsy Oil 1.
Snyder, Magnolia Pet. 2.
Newstadt, Magnolia Pet. 2.
Cruce, Schermerhorn 2.
Gault, Simpson & Fell 1.
Snyder, Westheimer 1.
19-1s-2w Morris, McGahee 1.
2-2s-3w Delman, Magnolia Pet. 1.
15-2s-3w Howard, Twin State Oil 1.
Jenninga, Lathrop-Dennis & W. Franklin 1.
Carpenter, Mid-Cont. Pet. 1, 2.
22-2s-3w Kimbrell, Carter Oil 2.
Carpenter, Twin State Oil 3.
Carpenter, Humble Oil 7.
Morris, Magnolia Pet. 1.
Calvery, Wirt Franklin 1.
Carpenter, Wirt Franklin 5.
23-2s-3w Williams, Magnolia Pet. 7.
Lohman, Magnolia Pet. 9.
29-2s-3w Morris, Gypsy Oil 3.
6-2s-2w Higgins, Roxana Pet. 1.
7-2s-2w Pierce, Coline Oil 8.
Higgins, Coline Oil 4.
Caughman, Roxana Pet. 2, 3, 4.
8-2s-2w Pierce, Carter Oil 1.
15-2s-2w Cox, Magnolia Pet. 1.
16-2s-2w Higgins, Roxana Pet. 1-B.
Wilson, Magnolia Pet. 1.
Cox, Magnolia Pet. 1.
31-2s-2w Bennett, Graham Mineral Trust 13.
8-3s-2w Moyer, Humble O. & R. 3.
Fitzgerald, F. W. Merrick et al 1.
Nicholson, Merrick & Cameron 1.
9-4s-2w Hazel-Vorhees, Simpson & Fell 3.
Hewitt-Walker, Humble O. & R. 20.
22-4s-2w Dillard, Baker & Strawn 12.
1-4s-3e Barnes, Humble O. & R. 1.
8-5s-1w Lasher, Pandem Oil 1.
35-5s-1w Joy, Humble O. & R. 1.
20-5s-1e Farve, Amerada Pet. 24, 25.
S. Baptiste, Amerada Pet. 22.
28-5s-1e Westheimer, Amerada Pet. 13.
Fish, Amerada Pet. 16.

Wells Shut Down

23-2s-3w Lohman, Magnolia Pet. 7.
7-2s-2w Watkins, Iowa Oil 1.
13-5s-3w Beal, Wickenhiser 1.
Rigs, 14; wells drilling, 55; total, 69.

JEFFERSON COUNTY
Rigs

28-6s-5w Seay, Couch & Brown 1.

Wells Drilling

36-5s-4w Woodwarth, Godley Oil 1.
27-6s-6w Ryan, Muse & Robertson 1.
28-6s-5w James, Fure Oil 1.
31-6s-5w Seay, Simpson, Fell & Sigler 1.
33-6s-5w Indian, A. C. Brown 3, 4.
Jones, Carter Oil 3, 4.
Seay, Carter Oil 2.
Seay, Gypsy Oil 18, 19.
2-7s-6w Trout, Staley & Wynn 1.
5-7s-5w Seay, Woodruff Bros. 1.
18-7s-5w James, Humble O. & R. 1.

Wells Shut Down

21-5s-6w Cowden, Kelsey et al 1.
34-5s-6w Major, Oasis Oil 1.
33-6s-5w Indian, A. C. Brown 2.
23-7s-7w Hayes, L. C. Hivick et al 1.
Rig, 1; wells drilling, 18; total, 19.

MISCELLANEOUS COUNTIES
Rigs

Grant County—
24-27-3w Birdston, Burns & Beasley 1.
Harper County—
30-29-22w ——, D. T. Water 1.
Woodward County—
4-23-17w Nordyke, Diamond Drlg. Co. 1.
Logan County—
11-18-3w Mathews, Santrock Drlg. Co. 1.
Kingfisher County—
20-15-8w Otis, Hoffman et al 1.
23-15-5w Davidson, Reiter-Foster 1.
Oklahoma County—
7-14-3w ——, J. V. Bailey 1.
17-14-2w Lynn, Von Stein & Hagerling 1.
13-13-1w Martin, E. A. Hawley & Rosser 1.
Texas County—
32-5n-12e Havey, Valerius O. & G. 1.
McIntosh County—
12-11-14 Richards, Tiger Mtn. Oil 1.
Pittsburgh County—
32-9n-16e Smith, J. L. Pattison 1.
Pottawatomie County—
16-10-5e School land, Clark Edwards et al 1.
Caddo County—
31-6n-9w Abernathy, English Drlg. Co. 3.
1-5n-9w Funk, Cont. Diamond Core Rrig. Co. 1.
Kiowa County—
6-2s-16w ——, Landfair et al 1.
Marshall County—
24-5s-5e Arbuckle, United 8 Oil 3.
Love County—
10-6s-3w Laten, R. M. Borring et al 1.

Wells Drilling and Shut Down
(Shut down wells indicated by *)

Alfalfa County—
8-28-12w ——, W. J. Hartley & C. W. Green 1*.
Grant County—
6-28-3w Snyder, Ostott Delv. 1.
8-27-8w Moore, Register Oil 1.
26-27-4w Bohan, Wilson & Gloyd 1.
2-27-3w Webb, Marland Oil 1.
14-27-3w Howell, Western States 16.
22-27-3w Stewart, Western States Oil 4-A*.
Lane, Blackwell O. & G. 2*.
23-27-3w Floeta, Larutan Fuel Co. 1*.
Martin, Kay O. & G. 3.
27-27-3w Lane, Western States Oil 1*.
16-26-3w Sherrer, Flannagan & Dedman 1*.
23-26-3w Tabor, Lambert & Minks 1*.
33-26-3w Muegge, Gypsy Oil 1.
22-25-4w Vallner, Cowden 2*.
Noble County—
6-24-2w Stephenson, Marland Oil 1.
18-24-2w Coulter, Olean Pet. 1*.
22-24-2w Kurby, Wilkins & Kors 1*.
29-24-1w Reed, Mid-Cont. Pet. 6*.
1-24-1e 101 Ranch, Geo. Miller 1.
9-24-1e Miller, Independent et al 1.
36-24-1e Warrior, Gypsy Oil 1.
14-24-2e Edmonds, Ossenbeck et al 1.
15-23-2w Washburn, Sinclair Oil 1.
22-23-2w Brumfield, Mid-Co. Pet. 15.
18-22-2w Pfrimmer, Hartman & Skaer 1.
26-22-2w Shoop, Champlin Refg. 1.
33-22-2w Burk, Elano Oil 1.
15-21-2w Taylor, Magnolia & Bu-Vi-Bar 1.
Sams, Magnolia & Bu-Vi-Bar 2.
16-21-2w Hoffman, Red Bank Oil 1*.
Treman, Red Bank Oil 1.
21-21-2w Reynolds, Magnolia & Bu-Vi-Bar 1.
22-21-2w Weeder, Magnolia Pet. 1.
28-21-2w Snyder, Bu-Vi-Bar Pet. 1.
7-21-1w Williams, R. L. Corley 1*.
12-21-3e Sawyer, Ossenbeck & McMann 1*.
32-20-1e Hall, Nelson & Hardin 1.
Harper County—
14-25-22w Cooper, Hoffer Oil 1*.
Ellis County—
32-24-24w Meehan, Utility O. & G. 1*.
Major County—
36-22-14w Cheyenne Basin, The Texas Company 1*.
36-21-11w Gray, Frantz & Slick 1*.
Woodward County—
34-20-20w ——, Small-Kennessey 1.
Logan County—
33-19-4w ——, Bryan & Emery 1.
28-18-4w Moore, Franklin Oil Assn. 1.
33-18-3w Quier, Haley & Pioneer Pet. 1*.
21-18-2w Donahue, J. L. Donahue et al 1*.
28-16-1w Lair, Blackford O. & G. 1*.
Dewey County—
7-18-15w Chrysler, Meyers 1*.
8-18-15w Perfect, Huckleby-McCoy 1*.
Kingfisher County—
27-16-6w Sturgeon, McKenna & Crawford 1*.
17-15-6w Creaves, Chi Oil & Nicholas 1*.
Blaine County—
21-15-10w Eklemier, Okoma Oil 1*.
Canadian County—
9-14-6w Platt, A. D. Spears et al 1.
34-13-9w Dawson, Thos. Revelle 1.
2-13-8w Setter, Carroll & Zweicher 1*.
29-11-7w Sanders, O. D. Jones 1*.
Oklahoma County—
9-14-1w Miller, Maxine Pet. 1.
10-12-3w Edwards, Cromwell O. & G. 1*.
Texas County—
21-4n-14e Horey, Wilcox O. & G. 1.
18-3n-12e Hughes, Valerius O. & G. 1*.
28-3n-13e Del, Wilcox O. & G. 1.
9-3n-15e ——, Reiter-Foster Oil 1.
4-1n-12e ——, Haley, Garber & Pulse 1.
Mayes County—
20-20-20 Longaner, J. C. Fox & F. R. Shipard 1.
8-20-19e Drew, J. L. Dixon 1.
McIntosh County—
4-10-13 Greenwood, G. F. Haun 1*.
17-10-14 Lynch, Gypsy Oil 1.
Pittsburg County—
29-6n-13 Townsend, E. T. Richards 1*.
8-2n-16 Wilkin, Barker & Hailey 1*.
Latimer County—
7-5n-18 Hunt, P. & F. Pet. 1.
Pottawatomie County—
26-11-4e Kline, Sikes, Kilgore & Shaffer 1.
3-11-5e Allenbaugh, The Texas Company 1
12-10-3e Ives, Sikes, Kilgore & Shaffer 1.
25-10-4e Madgett, J. W. McCullough Inc. 1
28-10-4e Toney, Central Natl. Oil 1*.
16-9n-5e School land, Gypsy Oil 1.
24-8n-4e Stoner, Maude Oil 1*.
13-7n-4e Vienx, Magnolia Pet. 1.
15-7n-4e Standridge, Darby Pet. 1.
19-7n-4e Neghan, Croxton & Bucklin 1.
16-6n-2e McCahey, Davis Detrick et al 1.
20-6n-4e Hibbard, Croxton Wrightsman et al 1.
4-5n-5e Fiddler, Halmond Osmond et al 1*.
Beckham County—
24-9n-25w ——, W. H. Sheldon 1.
25-8n-22w McGee, W. R. Duke 1*.
Vanvector, Kadane et al.
Caddo County—
29-5n-12w Galbreath, W. J. Hartley 1*.
6-5n- 9w Cup, Briscoe & Hall 5.
Tillman County—
13-1s-18w Snelling, Oasis Oil 1*.
1-5s-15w Riverbed, Tipton et al 1*.
Atoka County—
28-2s-9e Underwood, Wapanucka Dev. Co. 1*.
17-4s-11e Dabney, Hanson et al 1*.
Johnson County—
26-4s-5e Chastain, Deese et al 1.
Marshall County—
10-5s-5e Griffen, W. E. Ramsey 1*.
17-5s-5e Sacra, Kennedy Drlg. Co. 1.
21-5s-5e Sacra, Gill et al 1.
24-5s-5e Arbuckle, United 8 Oil 4.
19-5s-6e Neff, United 8 Oil 3.
30-5s-6e Marshall, United 8 Oil 1*.
Love County—
28-6s-2e Fee, Westheimer 1.
12-9s-1e Gray, R. B. Pender et al 1.
Rigs, 18; wells drilling, 102; total, 120.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Anderson	20	1,342	5	0
Butler	33	2,767	15	0
Chautauqua and Elk	10	60	4	4
Cowley	30	1,707	4	1
Greenwood	81	8,630	22	0
Lyon	12	1,130	7	0
Russell	12	1,599	1	0
Miscellaneous	18	75	16	1
Total March	211	17,310	74	6
Total February	208	9,137	65	14
Difference	3	8,183	9	8

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	15	56	71
Chautauqua and Elk	5	21	26
Cowley	7	47	54
Greenwood	49	74	123
Lyon	8	23	31
Montgomery	0	13	13
Russell	1	10	11
Sumner	1	13	14
Miscellaneous	17	103	120
Total March	103	360	463
Total February	100	401	501
Difference	3	41	38

ANDERSON COUNTY

4-22-19 Erickson, Welda Pet. 1 ..... dry
Erickson, Welda Pet. 1 ..... dry
33-20-21 Johnson, McGill et al 2 22
28-20-21 Cleveland, Doering et al 1 100
16-21-20 Smith, Jas. O'Nell Bruen 1 ..... dry
32-20-21 Bandy, Albert H. Keys et al 12 dry
Bandy, Albert H. Keys et al 11 160
Bandy, Albert H. Keys et al 10 100
Bandy, Albert H. Keys et al 9 110
13-21-20 Erving, Peerless Oil of Kansas 15 65
33-20-21 Johnson, McGill et al 1 30
Kratchsmer, McGill et al 3 150
Kratchsmer McGill et al 2 100
Cleveland, McGill et al 1 130
28-20-21 Cleveland, Doering 2 ..... dry
4-21-21 Connelly & Loriaux, Southwestern Pet. 11 125
Connelly & Loriaux, Southwestern Pet. 10 10
Connelly & Loriaux, Southwestern Pet. 9 20
32-20-21 Bandy, Albert H. Keys 13 150
4-21-21 Rand, McGill, Vanhorn & Denton 15 70

Wells completed 20
Production 1342
Dry 5

BUTLER COUNTY

29-26-8e Drum Bitler, John Rogers 11.. 25
35-27-4e Skaer, Empire G. & F. 14..... 37
22-27-7e Dungey, Amerada Pet. 3..... 100
Barnhill, Sinclair Oil 2..... 130
Truesdale, The Texas Company 2 ..... dry
13-25-3e Wilson, Skelly Oil 2 ..... dry
28-25-5e Hegberg, Empire G. & F. 85... 25
27-26-7e Wilhite, White Eagle O. & R. 2 250
35-27-4e Skaer, Empire G. & F. 13.... 35
9-27-7e Hemenover, Vickers Pet. 1.... dry
22-27-7e Dungey, Amerada Pet. 2..... dry
Richardson, Phillips Pet. 1.... dry
14-28-6e Hamilton, Miss. Valley Oil 1.. dry
7-23-8e Flint, Donnelly et al 1..... dry
8-25-5e Wilson, Empire G. & F. 162.. 25
28-25-6e Doornbos, Cassoday Oil 1..... dry
4-26-5e Finney, Empire G. & F. ..... dry
30-26-8e Drum Bitler, Cowpunchers Oil 2 35
22-27-7e Tobler, Flack, Davidson et al 2 365
Barnhill, Sinclair Oil 1 25
Barnhill, Sinclair Oil 3 150
Truesdale, The Texas Company 1 180
28-27-7e Iobe, Manhattan Oil 2..... 150
Iobe, Manhattan Oil 3 50
33-27-7e Langdon, Federal Oil 2 200
22-28-7e Nelson, Mid-Kansas Oil 1 40
14-25-3e Dohren, Skelly Oil 1 ..... dry
12-26-5e Cowles, Frank Allen & Steiner 1 ..... dry
27-26-7e Wilhite, Connell Oil 2 150
8-27-6e Brissey, Richmond Drlg. Co. 1 25
22-27-7e Tobler, Flack, Davidson et al 3 220
27-27-7e Kruse, Amerada Pet. 1 150
Kruse, Amerada Pet. 3 150
Kruse, Phillips Pet. 3 250
28-27-7e Troup, Mid-Kansas Oil 1 ..... dry
7-27-8e Nichols, Connell et al 1 ..... dry
23-28-7e Hamp, Martle Oil 1 ..... dry
21-29-6e Steinhoff, Garden & White Eagle Oil ..... dry

Wells completed 38
Production 2767
Dry 15

CHAUTAUQUA AND ELK COUNTIES

20-32-10 Gibson, Watchorn Oil 1..... dry
21-31-10 Miller, Neely O. & G. 1 ..... gas
18-29-10 Taylor, Ohio Fuel Oil 1..... gas
23-31-10 Webb, Empire G. & F. 2..... dry
28-31-11 La Ville, Gillespie 1 ..... gas
28-32-10 Walker, Watchorn O. & G. 2.. 30
15-31-10 Ames, Southwestern Gas 1 .... gas
29-33-9e Rich, Shaffer Oil 1 ..... dry
12-30-9e Donald, Pulaski Oil 1 20
28-31-10 Rettig, Neeley O. & G. 1 10
35-21-10 Jules, Denman et al 1 ..... dry

Wells completed 10
Production 60
Dry 4
Gas 4
Gas production 6,000,000

COWLEY COUNTY

24-32-4e Wallace, J. A. Hull 14 150
28-33-3e Wycoff, Gypsy Oil 1 ..... dry
11-33-4e Beard, White Eagle et al 1 .. dry
5-31-6e Eastman "A", Empire G. & F. 2 25
6-31-6e Eastman, Southwestern Pet. 10 50
19-32-8e Carson, T. B. Slick 7 100
24-32-4e Kukuk, J. A. Hull 14 100
25-32-4e McFadden, Buckeye Oil 1 .. dry
19-33-3e Heskett, Slick & Marland 3.. 12
19-32-3e Carson "A", T. B. Slick 6 20
6-32-5e Dudgeon, Ark. Fuel Oil 2 .... dry
5-31-6e Eastman, Shawver & Sutter 2 17
8-31-6e Stout, Deal et al 3 ..... gas
19-32-3e Carson "A", T. B. Slick 4 375
25-32-4e McFadden, Buckeye Oil 2 150
19-32-5e Boyd, Duffield et al 2 60
Cavit, Duffield et al 2 100
21-33-3e I. Nelson, W. Phillips & Marland 6 80
I Nelson, W. Phillips & Marland 5 60
28-33-3e Caldwell, W. Phillips & Marland 11 408

Wells completed 20
Production 1707
Dry 4
Gas 1
Gas production 5,500,000

GREENWOOD COUNTY

3-22-10 Pixlee, Phillips Pet. 1 ..... dry
8-22-10 Pixlee, Theta Oil 7 50
12-22-10 De Malorie, Davis, Hazlett et al 10 1225
De Malorie-Souder, Manhattan Oil 3 450
20-22-10 Browning, Sinclair Oil 35..... 60
Prather "A", Skelly Oil 1 .... dry
29-22-10 Prather "B", Skelly Oil 1.... dry
14-22-11 Fromme, Empire G. & F. 7.... 150
6-22-12 Jones, Swartz et al 1 ..... dry
25-23-8e Dales "B", Mission Oil 6 .... dry
19-23-9e Morris, Empire G. & F. 2 75
30-24-11 Wiggins "A", McGinnis et al dry
16-24-13 Blackwell, Rhodes & Ables 3.. 45
26-26-9e Porter, Comment Oil 1 ..... dry
6-22-10 Atyeo, Empire G. & F. 2 200
8-22-10 Pixlee, Theta Oil 6 100
12-22-10 De Malorie-Souder, Manhattan Oil 2 450
18-22-11 Clopton, Mid-Cont. Pet. 6 50
Clopton, Mid-Cont. Pet. 7 75
22-22-13 Young, Braden Bros. et al 1 .. 75
25-23-8e Craft Taylor, Manhattan Oil 5 75
Craft Taylor, Manhattan Oil 6 100
1-23-9e Skelly-Shambaugh, Skelly Oil 2 185
19-23-9e Morris, Phillips Pet. 9 75
Morris, White Eagle et al 3 .. 200
22-23-9e Teter, Davis et al 2 20
22-23-12 Noll, McGinnis & Parrish 1 .. dry
29-23-13 Dehlinger "B", Mid-Cont. Pet. 8 25
26-14-11 Johnson, Cooper et al 1 ..... dry
26-24-12 Hughes, Foster Oil 2 10
10-25-9e Robbins, Cruzan & Parker 1 .. 10
10-25-9e Robbins, Cruzan & Parker 1 .. dry
6-22-10 Atyeo, Empire G. & F. 3 500
Atyeo, Kanson Oil 1 150
8-22-10 Pixlee, Theta Oil 8 50
12-22-10 De Malorie, Davis, Hazlett et al 11 450
17-22-10 Browning, Theta Oil 16 .... dry
20-22-10 Browning, Sinclair Oil 36 30
29-22-10 Prather, The Texas Company 4 150
11-22-11 Hind, Empire G. & F. 6 200
32-22-11 DeMalorie, York State Oil 5 .. 200
O'Nell, York State Oil 6 .. 100
6-22-12 Joseph, Phillips Pet. & Skelly 1 10
25-23-8e Dales "B", Mission Oil 8 40
2-23-9e Shambaugh, Manhattan Oil 7 200
19-23-9e Morris, Empire G. & F. 3 .... dry
15-23-13 Shadel, Mid-Cont. Pet. 7 25
28-23-13 Dehlinger "A", Mid-Cont. Pet. 3 50
27-24-9e Hill, Leeward Pet. 3 30
29-24-11 Linderman, Murphy et al 1 .. dry
30-24-11 Wiggins "C", McGinnis et al 2 175
12-25-8e Birkett, Roth & Farout 8 .... dry
23-26-9e Miles, Flintridge Pet. 2 ..... dry
24-26-9e Weirahing, Beacon Oil 3 75
3-22-10 Pixlee, Tidal Oil & Jones 1 .. dry
Pixlee, Tidal Oil & Jones 2 .. dry
6-22-10 Atyeo, Empire G. & F. 4 160
12-22-10 De Malorie-Souder, Manhattan Oil 4 ..... dry
De Malorie-Souder, Manhattan Oil 5 300
29-22-10 Prather, Titus et al 7 300
Prather, Titus et al 12 250
Prather, Titus et al 17 250
Prather, Titus et al 22 40
19-22-11 Harris, Selby Oil 2 30
33-22-11 Greenwood, Jennings et al 7 .. 175
Hillard, Phillips Pet. 5 175
4-22-12 Frankhouser, Fisher, Lauck et al 1 150
24-23-8e Scott "C", Hayes, Robertson et al 1 35
25-23-8e Craft Taylor, Manhattan Oil 7 150
Dales "B", Mission Oil 9 35
26-23-8e Mosby, Phillips Pet. 2 50
14-23-9e Green, Murphy et al 1 200
16-23-9e Teter, Empire G. & F. 32 75
36-23-9e Teter, Darby & Simmons 5 .. dry
20-23-9e Barrier, Syndicate Oil 1 ..... dry
23-23-10 Allen, Mid-Kansas Oil 15 25
27-23-10 Thrall "B", Roth, Farout & Mission Oil 5 30
28-23-19 Thrall, Roth, Farout & Mission Oil 43 30
27-23-13 Berry, Mission Oil 1 35
27-24-9e Wiggins, Polhamus et al 3 .. dry
19-24-11 Linderman, Harwood & Winters 1 25
1-26-11 Henderson, Roth & Farout 1.. dry

Wells completed 31
Production 8630
Dry 22

LYON COUNTY

34-21-10 Pixlee, White Eagle O. & R. 2 200
33-21-12 McIlliviare, Phillips Pet. 3 .. 10
14-21-10 Suttle, Edwards, Buck et al 1 dry
34-21-10 Pixlee, Ritchey & Moore 3.... dry
Pixlee, Titus et al 1 ..... dry
16-20-10 Reese, J. V. McMahon 1 ..... dry
31-21-10 Atyeo, Sheedy et al 1 200
34-21-10 Pixlee, White Eagle O. & R. 1 dry
18-21-13 Carson, Balliere et al 1 ..... dry
31-21-10 Atyeo, Sheedy et al 2 400
32-21-12 Verdroja, Phillips Pet. 3 ..... dry
33-21-12 Lauck, Phillips Pet. 7 320

Wells completed 12
Production 1130
Dry 7

RUSSELL COUNTY

32-11-15w Dodge, Derby Oil et al 2 240
5-12-15w Sutton, Derby Oil 5 76
Kollman, Tom Johnson 6 120
8-12-15 Oswald, Mid-West Refg. 21.. 140
Oswald, Valerius Oil 8 100
Oswald-Valerius, Valerius Oil 12 96
19-11-15w Dodge, Link Syndicate 1 .... dry
32-11-15w Booth, Snowden, McSweeney 2 250
17-12-15w Oswald-Valerius, Valerius O. & G. 14 224
8-12-15w Oswald, Mid-West Refg. 24.. 133
Oswald-Valerius, Valerius Oil 13 100
17-12-15w Oswald-Valerius, Valerius Oil 9 45

Production 1599
Dry 1

MISCELLANEOUS COUNTIES

Ellis County—
33-15-20w Murphy, Faler et al 1 ..... dry
Harvey County—
4-23-2e Brandiwelde, Wentworth Bros. 1 ..... dry
Woodson County—
13-25-14 Hunt, Alters et al 1 ..... dry
29-26-17 Clark, Equity Oil 1 ..... dry
4-26-14 Lawler, Herman & Oglesby 1 . dry
Chase County—
1-22-9e Evans, Dingee, Proyor & Lickhart 1 ..... dry
Coffee County —
29-19-16 McFadden, Burge et al 1 .... dry
9-20-14 Jones, W. R. Wilson 1 ..... dry
Rice County—
10-19-6w Walker, Jasper & Beschka 1. dry
35-20-6e Welch, Hipple et al 1 75
Sedgwick County—
21-29-3w Webb, Allison & Fitzwilliams 1 dry
Allen County—
5-26-21 Bradon, H. B. Parrott et al 1 gas
32-25-21 Horner, Smoke Oil 1 ..... dry
Clay County—
32- 9-4e Fleming, Boggess et al 1 .... dry
7-10-4e Fridley, Vickers Pet. 1 ..... dry
Linn County—
26-20-21 Hurst, Lilligren et al 1 ..... dry
Dickinson County—
12-14-1e Engles, Marland Oil et al 1 .. dry
Wilson County—
7-28-14 Depler, Mid-Cont. Pet. 1 .... dry

Wells completed	18
Production	75
Dry	16
Gas	1
Gas production	250,000

BUTLER COUNTY

Rigs

29-24-7e Potts, Manhattan Oil et al 1.
8-25-5e Wilson, Empire Gas & Fuel 163.
32-26-6e Schoenrock, Mason & Ralston 2.
27-26-7e Wilhite, Connell Oil 3.
27-26-7e Wilhite, White Eagle O. & R. 3. Wilhite, White Eagle O. & R. 4.
26-27-4e Safford, Safford et al 7.
35-27-4e Skaer, Empire G. & F. 15.
36-27-4e King, Empire G. & F. 16.
31-27-5e Clark, Neeley O. & G. 1.
9-27-6e Tatum, Phillips Pet. 1.
22-27-7e Truesdale, The Texas Company 3.
27-27-7e Truesdale, Dixie Oil 2. Truesdale, Phillips Pet. 7.
33-27-7e Laughlin, Lewis Oil 3.

Wells Drilling

29-23-4e Parris, Ark. River Gas Co. 12.
30-23-7e Swively, Templeman, Frantz et al 1.
19-23-8e Sturgeon, Tom Miller et al 1.
12-25-6e Teter, Manhattan Oil 1.
22-25-7e Collins, Liggett et al 1.
13-26-6e Salathiel, Sanford et al 1.
12-26-7e Kiser, Neeley O. & G. 1.
32-26-7e Huntley, Hoyt et al 1.
16-26-8e Dickinson, Tidal & Gt. Southern 33
19-26-8e Hoge, Leighty & Martin 1.
25-27-4e Skaer, Magnolia Pet. 3.
35-27-4e Starkey, Empire G. & F. 9.
7-27-6e Kistler, Gypsy Oil 1.
36-27-6e Figge, Liggett et al 2.
27-27-7e Kruse, Amerada Pet. 2. Kruse, Amerada Pet. 4, 5. Truesdale, Dixie Oil 1. Trobler, Empire G. & F. 2. Kruse, Phillips Pet. 2, 4. Truesdale, Phillips Pet. 2, 3, 4, 5, 6.
28-27-7e Iobe, Manhattan Oil 4, 5. Anderson, Phillips Pet. 1.
31-27-7e Sears, Tidal Oil 1.
33-27-7e Laughlin, Federal Oil 3, 4, 5. Laughlin, Lewis Oil 1, 2.
34-27-7e Blunt, Manhattan Oil 2.
3-28-6e Blankinship, Allison & Fitzwilliams 1.
20-28-6e Pettett, Connell et al 1.
34-28-6e Powell, Manhattan Oil 1.
9-28-7e Lemon, Marland Oil 1
15-28-7e Sensenbaugh, Atlantic Oil Prod. 3. Elders, Atlantic Oil Prod. 1.
4-29-6e Werner, White Eagle et al 1.
23-29-6e Deichman, Garden et al 1.
17-29-7e Brown, White Eagle et al 1.
33-29-8e Hanna, Roth & Co. 8.

Shut Down

14-23-7e DeFord, Ramsey Pet. 1.
31-23-8e Walkins, Manhattan Oil 1.
36-24-4e Barkmyer, Robinson et al 1.
9-26-6e Fuller, Polhamus & Smith 1.
24-27-4e Weldline, Weidline et al 1.
13-28-6e McCraig, Farr et al 1.
22-28-6e Pettett, Connell et al 1.
12-29-6e Keneyon, Tobin et al 1.
3-29-7e Arnold, Landon et al 1.
8-26-6e Kimball, Kismet Oil 1.

Rigs, 15; wells drilling, 56; total, 71.

CHAUTAUQUA & ELK COUNTIES

Rigs

21-32-11 McCarty, Robinson et al 1.
5-33-9e Garr, Brouck et al 1.
3-30-9e Denton, Elk Pet. Co. 6.
13-31-10 Webb, Pure Oil 6.
29-31-11 La Ville, Gillespie 1.

Wells Drilling

1-32-10 Oliver, Griffeth, Bell et al 1.
32-32-10 McCown, Blackwell O. & G. 1.
30-34-9e Berrum, Leighty et al 1.
34-29-9e Denton, Denton Bros. 12.
1-30-9e Thompson, Conley et al 1.
12-30-9e Donald, Glaiman & Barber 1.
14-30-9e Howard, Sharpless et al 1.
31-30-11 Finley, Manhattan Oil et al 1.
32-31-9e Wilber, Empire G. & F. 1.
24-31-10 Shaffine, Pure Oil 9. Webb, Southwestern Gas 11.
16-31-10 Webb, Sonner Oil 3.
21-31-10 Miller, Benge & Wilson 1. Miller, Neeley O. & G. 1.
27-31-10 Walker, Theta Oil 5.
29-31-10 McCormick, Neeley O. & G. 1.
7-31-11 Lawless, Gillespie 1.

Shut Down

11-32-10 Jeanneret, Griffeth & Stueb Oil 1.
7-33-10 Briggs, Noble O. & G. 1.
4-29-9e Britton, McCollough & Tolbot, 1.
19-31-9e Newbecker, Anglo-Texas Oil et al 2

Rigs, 5; wells drilling, 21; total, 26.

COWLEY COUNTY

Rigs

16-31-3e Shaffer, Benedum & Trees 5.
31-31-4e Goodrich, Twin State Oil 1.
6-31-6e Eastman, Southwestern Pet. 11.
34-32-4e Shannon, Gypsy Oil 9
24-32-4e Wallace, J. A. Hull 15.
7-32-5e Crosby, Ark. Fuel Oil 5.
21-33-3e I. Nelson, W. Phillips & Marland 4

Wells Drilling

32-30-5e Wither, Pettet & Banks 1.
7-30-6e White, Branson et al 1.
31-30-6e Walker, Lewis Oil 1.
6-30-8e Mahanna, Paul Trees et al 3.
28-30-8e Ferguson, Hazlett et al 1.
1-31-3e Curry, Marland Oil 1.
10-31-3e Smith, Benedum & Trees 5.
20-31-5e Sickles, Roth & Farout 2.
19-32-3e Carson "A", T. B. Slick 3. Waite, Carter Oil 9.
24-32-4e Shannon, Gypsy Oil 8. Kukuk, J. A. Hull 15. Lewis, J. A. Hull 3.
25-32-4e Lierman, Gypsy Oil 1.
6-32-5e Biddle, Ark. Fuel Oil 1.
18-32-5e Barnette, Gypsy Oil 1.
19-32-5e Boyd, Duffield et al 3. Bartlow, J. A. Hull 3.
5-33-3e Oles, Marland Oil 1.
16-33-3e Hunt, Gypsy Oil 2, 3. H. Thurlow, W. Phillips & Marland 8.
17-33-3e Watts, Wentz et al 2.
19-33-3e Holman, W. Phillips & Marland 3.
21-33-3e E. Nelson, W. Phillips & Marland 3
21-33-3e E. Nelson, W. Phillips & Marland 18. W Snyder, W. Phillips & Marland 2.
29-33-3e Allison, W. Phillips & Marland 3.
36-33-4e Seacat, Roxana Pet. 1.
24-33-6e Standstrum, Little Martha Oil 2.
4-33-7e Reynolds, Forrester et al 1.
7-33-7e Riding, Brown Bros. 1.
18-33-7e Smith, Doric Oil 1.
5-34-3e Martin, Gypsy Oil 1.
16-34-3e Chapman, Roxana Pet. 2.
22-34-3e Kimball, Roxana Pet. 1.
14-34-4e Messner, Rosenthal 1.
15-34-4e Pollock, Bunnell et al 1.
16-34-5e Hunt, Phillips Pet. 1.
24-34-6e Day, S. H. E. Pet. 1.
7-35-9e Vickery, Roxana Pet. 1.
16-35-4e Hollingsworth, Muddy Oil 1.

Shut Down

14-30-6e Hulmes, Gray, Hewey et al 1.
4-31-5e Elliott, Boxer et al 1.
29-32-7e Bronson, W. H. Hammill 1.
16-34-3e Chapman, Roxana Pet. 3.
18-35-3e Gally, Roxana Pet. 1.
5-35-5e Stearling, Springstead & Overlease 1.

Rigs, 7; wells drilling 47; total, 54.

GREENWOOD COUNTY

6-22-10 Ttyeo, Empire G. & F. 5, 6. Atyeo, Kanson Oil 3.
7-22-10 Evans, Miss. Valley Oil 1.
9-22-10 Pixlee, Theta Oil 9.
12-22-10 De Malorie, Davis, Hazlett et al 14, 15.
27-22-10 Brown, Neeley O. & G. 1.
29-22-10 Prather, Titus et al 3, 4.
29-22-10 Prather, Titus et al 8. Prather, Titus et al 13, 14, 25.
30-22-10 Prather, Titus et al 3.
15-22-11 Pees, Empire G. & F. 6.
18-22-11 Clopton, Mid-Cont. Pet. 8.
32-22-11 De Malorie "C." York State Oil 3.
33-22-11 Westcott, York State Oil 10.
4-22-12 Frankhouder, Fisher, Lauck et al 2 Frankhauser, Pulaski & Simmons 1
23-22-12 Broddick, Abel, Rhodes et al 5.
27-22-13 Miller, Braden Bros. et al 5.
25-33-8e Scott, Hayes, Robertson et al 11, 12 Dales "B', Mission Oil 10.
26-23-8e Mosby, Phillips Pet. 3.
1-23-9e Shambaugh, White Eagle O. & R. 1 Skelly-Shambaugh, Skelly Oil 3.
2-23-9e Shambaugh "A",Manhattan Oil 6.
10-23-9e Green, Manhattan Oil 22.
15-23-9e Green, Skelly Oil 2.
19-23-9e Morris, Empire G. & F. 4.
29-23-10 Thrall, Roth, Farout & Mission 23.
4-23-11 Yeager, Skelly Oil 1.
3-23-13 Souder, Theta Oil 13.
28-23-13 Dehlinger "A", Mid-Cont. Pet. 2.
1-24-9e Cartwright, Roth, Farout & Mission 10 .
19-24-11 Wiggins "A", McGinnis et al 4.
29-24-11 Linderman, Murphy 2.
32-24-11 Garrison, Polhamus et al 1.
17-24-13 Hinchman, Davis et al 1.
31-24-13 Cornish, Christy et al 3.
6-25-9e Oleson, Lassen et al 1.
10-26-8e Hull, Kinney Refg. 7.
23-26-9e Birkett, Continental Oil 2. Weirshing, Price et al 2.
24-26-9e Weirshing, Beacon Oil 4.
27-26-9e Duke, Smith, Wahn et al 1.

Wells Drilling

12-22-10 Fechter, The Prairie O. & G. 1.
12-25-12 Gilroy, The Prairie O. & G. 1.
7-27-13 Friend, The Prairie O. & G. 1.
16-24-13 Blackwell, The Prairie O. & G. 4.
1-22-10 Fuller, Day et al 1.
3-22-10 Pixlee, Transcontinental Oil 1.
6-22-10 Atyeo, Kanson Oil 2.
8-22-10 Pixlee, Mid-Kansas Oil 3.
12-22-10 De Malorie, Davis, Hazlett et al 12,13. Warrensburg, Phillips Pet. 6. Austin, Syndicate Oil 2. Austin, White Eagle et al 1, 2.
13-22-10 Derbyshire, Pryor & Lockhart 6.
19-22-10 Browning, Sinclair Oil 38.
20-22-10 Browning, Sinclair Oil 37.
29-22-10 Prather, The Texas Company 5. Prather, Titus et al 9, 20. Prather, Phillips Pet. 4.
30-22-10 Prather, Empire G. & F. 11.
11-22-11 Kipfer, Empire G. & F. 11.
14-22-11 Duby, Empire G. & F. 11.
14-22-11 Duby, Empire G. & F. 4. Fromme, Empire G. & F. 8, 9. Killison, Empire G. & F. 7.
18-22-11 Clopton, Mid-Cont. Pet. 9.
32-22-11 De Malorie, York State Oil 2.
33-22-11 Greenwood, Jennings et al 8.
8-22-12 Jarnette, Lamar & Hare 1.
4-22-12 Frankhouser, Simmons et al 2, 3.
28-22-12 Frankhouser, Simmons et al 1.
18-22-13 Ott, Empire G. & F. 1.
24-23-8e Scott, Empire G. & F. 9.
25-23-8e Craft Taylor, Manhattan Oil 8.
2-23-9e Shambaugh, "B", Manhattan 8.
9-23-9e Noler, Conway et al 1.
10-23-9e Green, Manhattan Oil 21.
15-23-9e Bradford-Teter, Phillips Pet. 5.
16-23-9e Teter, Empire G. & F. 33.
19-23-9e Morris, White Eagle O. & R. et al 6
27-23-10 Thrall "B", Roth, Farout & Mission 5.
4-23-11 Yeager, White Eagle 1.
8-23-11 Holland, Pulaski Oil et al 7.
3-23-13 Souder, Theta Oil 12.
9-23-13 Inthrum, Haverhill Pet. 5.
15-23-13 Schnieder, Shaffer & Howell 13.
1-24-9e Marshall, Ark. Fuel Oil 14.
26-24-9e Wiggins, Polhamus et al 4.
34-24-9e Marshall, Roxana Pet. 7.
23-24-10 Edwards, Jno. Edwards et al 1.
15-24-11 Short, Loy et al 1.
19-24-11 Linderman, Ritchey & Moore 1.
30-24-11 Wiggins "B," McGinnis et al 3.
31-24-11 Wagner, Peerless Oil et al 1.
19-24-12 Ott, Miss. Valley Oil 1.
12-25-8e Birkett, Roth & Farout 9.
9-25-9e Coulter, Lewis Oil 2.
19-25-9e Ladd, Mid-Kansas Oil 5.
20-25-9e Ladd, Mid-Kansas Oil 7.
28-25-10 Huntington, Hoy & Starkey 1.
18-25-11 Diebert, Parkins et al 1.
13-26-9e Life, Crown Central Pet. Co. 1.
23-26-9e Weirshing, Beacon Oil 1.
26-27-8e Lewis, Roth & Farout 1.
23-27-9e Lilly, Gillespie 1,

Shut Down

1-22-10 Huntsinger, Connell et al 1.
3-23-9e Noler, Knight et al 1.
19-23-9e Morris, Mission Oil 6.
22-23-13 Shambaugh, Mid Cont. Pet. 12.
13-26-8e Dunlap, Tom Miller et al 1.
22-26-9e Duke, Smith, Carlson & Marshall 2.
8-27-10 Neubratch, Morgan et al 1.

Rigs, 49; wells drilling, 74; total, 123.

LYON COUNTY

Rigs

25-19-10 Bibermyer, Culp et al 1.
32-19-11 Roberts, Abel, Finney et al 1.
33-19-13 Heaton, Balliere et al 1.
24-20-10 Stilwell, Garden, Staats et al 1.
31-21-10 Atyeo, Sheedy et al 5, 6.
11-21-11 Hathway, Fisher, Lauck & Moore 1
29-21-12 Tiles, Swartz et al 1.

Wells Drilling

5-21-10 Ewers Ranch, The Prairie O. & G. 1.
6-16-12 Putman, Manhattan Oil 1.
23-18-10 Ball, Connell et al 1.
22-18-12 De Long, Abel, Finney et al 1.
5-19-11 Parker, Clup et al 1.
36-19-11½ Estridge, Buck et al 1.
5-20-10 Newman, Buck et al 1.
25-20-11 Neussen, Miss. Valley Oil 1.
9-20-12 Flading, Gillespie et al 1.
18-20-12 Sleisher, Marland Oil 1.
19-21-10 Morris, Sheedy et al 1.
24-21-10 Roseillion, Super Six Oil 2.
25-21-10 Bradfield, McCollough et al 1.
30-21-10 Jones, Transcontinental Oil 1, 2.
31-21-10 Atyeo, Sheedy et al 3, 4.
35-21-10 Voorhees, Southwestern Pet. 1.
4-21-11 Langley, Miss. Valley Oil 1.
33-21-12 Lauck, Phillips Pet. 8.

Shut Down

12-20-10 Williams, Troxell et al 1.
22-20-12 Welch, Connell et al 1.
29-21-13 Shepard, Phillips Pet. 1.

Rigs, 8; wells drilling, 23; total, 31.

MONTGOMERY COUNTY

Wells Drilling

9-34-14 Eaton, Gillespie 1.
28-34-14 Owens, Phillips Pet. 1.
12-35-16 Wilson, Tex-O-Kan Oil 1.

Shut Down

21-31-14 Faler, Ramler et al 1.
21-32-13 Neiman, Dunn et al 1.
36-32-14 Dryhead, Irish et al 1.
5-32-16 Brinkman, Cowell 1.
35-32-16 Wyberger, Bloom et al 1.
29-32-17 Hellum, Earl & Overlease 1.
35-33-16 Felts, Voice & Tabor 1.
4-33-17 Hall, Townsend et al 1.
30-33-17 Bunk, Brown & Wolf 1.
4-35-17 Walker, Gallowye & Roberts 1.

Wells drilling, 13; total, 13.

RUSSELL COUNTY

Rigs

5-12-15w Kollman, T. C. Johnson 7.

Wells Drilling

8-12-15w Oswald, Mid-West Refg. 13, 15, 16, 22.
17-12-15w Munson, Valerius O. & G. 1. Oswald-Valerius, Valerius O. & G. 15. 16.
18-12-15w Ed Oswald, Skelly Oil 4.
30-12-15w Austin, Mid-West Refg. 1.

Shut Down

13-11-13w Pospishal, Krueger et al 1.

Rigs, 1; wells drilling, 10; total, 11.

SUMNER COUNTY

Rigs

24-33-2e Holt, Phillips Pet. 3.

Wells Drilling

34-34-2e Post, The Prairie O. & G. 1.
36-30-2w Riner, Cosden Oil 1.
17-32-2e Miller, Roxana & W. Phillips 1.
24-32-2e Conrad, Slick et al 1.
9-33-2e Wright, Marland Oil 1.
21-33-2e Rutter, Roxana Pet. 1.
24-33-2e Holman, Marland Oil 2. Holt, Phillips Pet. 2.
24-34-2e Carpenberger, Marland Oil 1.
27-34-2e Spain, Marland Oil 1. Schwartz, Wentz et al 1.

Shut Down

35-31-4w Stewart, Sparta Drlg. Co. 1.
4-34-1w Welcher, Cosden Oil 1.

Rigs, 1; wells drilling, 13; total, 14.

MISCELLANEOUS COUNTIES

Barber County—
35-22-14w Ott, Vickers & Miller 1.
Coffey County—
2-20-13 Milner, Terrian, Balliere et al 1.
Comanche County—
23-31-18w Starlock, I. M. Rupard et al 1.
Ellsworth County—
3-16-8w Herman, C. J. Wrightsman 1.
Graham County—
17-10-24w Baker, Gruin & Shriler 1.
Harper County—
22-34-6w Caton, Bu-Vi-Bar Pet. 1.
Kingman County—
9-27-6w Hempel, Phillips Pet. 1.
31-28-5w Beshare, Crawford & McKenna 1.
13-28-7w Greenleaf, Fleeger et al 1.
Morris County—
32-14-7e Barber, Kline et al 1.
Ness County—
35-16-21w Ryersee, Bell & Sarton 1.
Pottawatomie County—
17- 9-12 Stewart, Crawford et al 1.
31- 9-12 Bratchbar, Crawford et al 1.
Reno County—
9-25-7w High, Cassoday Oil 1.
Rice County—
2-19-10w Hollscher, Sparta Drlg. Co. 1.
35-20-6w Welch, Wilcox O. & G. 1.
17-21-6w Brothers, Hippie et al 1.

Wells Drilling and Shut Down
(Shut down wells indicated by*)

Barber County—
14-30-1w Kimburg, R. D. Rood et al 1.
30-30-14w Richardson, Skelly Oil et al 1.
14-34-11w Martin, B. B. Brown et al 1*.
Barton County—
22-18-12w Everleigh, John Herron 1*.
17-19-11w Smith, Huffine et al 1.
Chase County—
32-18-7e Lippa, Preston & Paiewalk 1.
24-20-9e Newman, Derby & Braden 1.
19-21-6e Griffeth, Liggett et al 1*.
25-21-9e Atyeo, Dingee, Pryor & Lockhart 1*.
29-22-8e Bradley, White Eagle & Connell 1.
Cloud County—
6- 6-4w Murdock, Concordie O. & P. 1*.
Coffey County—
26-20-13 Kensel, Basom et al 1.
25-22-14 Reed, Peerless Oil 1.
Edwards County—
7-23-19w Noberwell, Edwards County Pet. 1*.
Ellis County—
16-11-17w Bemis, Sparks et al 1*.
Ellsworth County—
24-14-7w Walker, United Pet. 1*.
6-14-9w Kasper, John Herron et al 1*.
Franklin County—
17-16-18e Owens, Smith, Thrice & Fisher 1*.
Geary County—
18-11-5e Stinford, Kirby & Wright 1*.
9-12-6e Wright, Liberty Texas Oil 1*.
30-13-6e Foster, Liberty Texas Oil 1*.
Graham County—
23-8-24w Taxon, Keys Bros. & Marine 1*.
27-8-25w St. Johns, Gulf Coast Drlg. Co. 1*.
Harper County—
19-32-5w Burk, Berry Pet. 1.
Hodgeman County—
19-21-22w Frizzell, Spencer & Marconnette 1.
Jefferson County—
13-9-19e Edwards, Northern Counties Oil 1*.
Kingman County—
15-27-7w Herman, T. B. Slick 1.
16-27-7w Richardson, Fleeger & Carter Oil 2.
25-27-7w Wilkinson, Allison & Fitzwilliams 1.
35-28-7w Yoeman, Cassoday Oil 1.
16-28-8w McKenna, Phillips Pet. 1.
4-30-6w Richards, Ozark Drlg. Co. 1.
Labette County—
14-31-17 Sparks, Ark. Fuel Oil 1*.
26-32-17 Wilks, Ark. River Gas 1*.
1-32-20 Thurman, Noble Oil 1*.
1-33-17 Hornbeck, Cowell et al 1*.
5-35-20 Lipps, Wantland et al 1* .
33-32-20 Burns, W. C. Willy 1*.
Lane County—
11-18-27w Dickinson, Richards' Ref. 1.
Lincoln County—
19-11-6w Stone, Scott & Collins 1*.
22-11-6w Lewis, Pope & Powell 1*.
36-13-7e Paul, United Ref. 1*.
Logan County—
14-14-32w Moffett, Coon et al 1*.
McPherson County—
3-18-2w Anderson, Fowler et al 1.
29-18-2w Anderson, Waugh & Casey 1.
Marion County—
8-19-4e Troup, Troup et al 1*.
28-19-5e Collins, Frank Allen et al 1.
17-21-4e Waner, National Ref. 3.
24-21-4e Jones, Sheedy et al 1.
32-21-4e Equity, Morgan et al 1*.
1-22-3e Colbeck, Cameron Bros. 1.
Mitchell County—
10-7-10w Kyle, Marland Oil 1*.
Morris County—
21-17-7e Welcher, Bowmand & Jones 1*.
24-17-9e Ceasman, Rock Creek Oil 1*.
Nemaha County—
19-3-11 Meyers, Nemaha O. & G. 1*.
Osborn County—
10- 7-12w Turner, Beasley 1*.
9-10-14w Beeley, Knight et al 1*.
Osage County—
3-15-15 Lease, Barber et al 1*.
27-15-16 Baley, West et al 1*.
8-17-17 Neil, Mull Vit Dev. Co. 1*.
32-18-14 Blank, McMahon & Leonard 1.
Phillips County—
15-5-16w McQueen, Curtis & Frost 1.
13-5-18w McKinley, Phillips Pet. & Prairie 1.
Pottawatomie County—
11-10-12 St. Marys, Crawford et al 1*.
Reno County—
10-23-4w Magnuson, Sheldon et al 1*.
5-26-4w Williams, Travis et al 1*.
7-26-7w Stevens, Hopper et al 1.
Rice County—
1-19-7w Deeds, Proyor & Lickhart 1*.
21-20-6w Barnes, Stamey et al 1*.
26-20-6w Johnson, Midland Oil 1*.
2-21-6w Jacobson, United Ref. 1.
34-20-6w Wood, The Prairie O. & G. 1.
35-20-6w Miller, The Prairie O. & G. 2. Welch, The Prairie O. & G. 2.
Riley County—
26-10-6e Marka, Pawnee O. & G. 1.
20-10-7e Thierer, Youker & Douglas 1*.
Rooks County—
7- 8-20w Saindon, Keys Pet. 1*.
25-10-19w Minx, Findless et al 1*.
Rush County—
10-18-16w Moore, Morgan & Downing 1*.
Saline County—
29-14-2w Davis, L. S. Johnson 1*.
26-15-2w Sahlilion, Brown & Woodward 1*.
15-15-4w Holquest, Thrall et al 1*.
Sedgwick County—
6-25-1e Poff, Boyle, Tack & Preston 1*.
9-25-2e Harrison, Smith & Keller 1*.
34-26-1e Jaden, Wichita O. & G. 1*.
7-26-2e Mills, Lamson et al 1*.
7-27-1e Custer, Chastain & Chastain 1.
17-29-1e Howell, Carr, Hartman & Skaer 1.
2-29-2e Flemming, Higgins 1*.
32-29-2w Nickinson, W. Phillips 1.
Stafford County—
23-21-11w Sifers, King & Lanston 1*.
24-22-11w Richardson, Randall & Johnson 1*.
Wabaunsee County—
15-13-12 Henderson, Williams et al 1*.
29-14-11 Young, White Drlg. Co. 1.
Wallace County—
12-13-39w Wufkuler, J. Allen Harvey 1*.
Wilson County—
22-28-13 Thompson, Price et al 1*.
29-30-17 Smally, West & Williams 1*.
Woodson County—
23-23-13 Hesalet, Marland & Christy 9.
32-23-14 Headley, Pure Oil 14.
6-25-14 Louder, Kirk et al 1.
13-25-14 Hunt, Alters et al 1*.
13-26-14 Daniels, Burford & Brimm 1*.
23-26-14 Towne, Peerless O. & R. et al 2.

Rigs, 17; wells drilling, 103; total, 120.

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Wichita	85	1,638	27	0
Wilbarger	53	5,660	10	1
Archer	158	5,875	66	0
Young	38	960	25	0
Stephens	20	4,206	4	4
Eastland	14	160	9	2
Brown	38	5,705	6	2
Callahan	7	250	4	0
Reagan	8	5,540	1	0
Hutchinson	8	2,955	0	0
Clay	5	20	4	0
Montague	10	585	1	1
Throckmorton	5	145	3	0
Shackelford	15	940	12	0
Coleman	13	0	13	0
Baylor	6	0	6	0
Haskell	2	0	2	0
Palo Pinto	3	0	3	0
Carson	1	250	0	0
Howard	1	10	0	0
Culberson	1	0	1	0
Tom Green	1	0	1	0
Crockett	1	0	1	0
Mitchell	1	360	0	0
Upton	1	200	0	0
Reeves	1	25	0	0
Moore	1	0	1	0
Wheeler	1	0	0	1
Collin	1	0	1	0
Total March	500	35,483	201	11
Total Feb.	342	17,329	129	4
Difference	158	18,154	72	7

Summary of New Work

County—	Rigs	Drg.	Ttl.
Wichita	2	34	36
Wilbarger	4	65	69
Archer	8	55	63
Young	1	8	9
Stephens	8	7	15
Eastland	1	11	12
Brown	11	46	57
Coleman	0	19	19
Callahan	0	8	8
Mitchell	1	7	8
Hutchinson	13	47	60
Shackelford	2	20	22
Reagan	1	18	19
Wildcats	6	78	84
Total March	58	423	481
Total Feb.	61	478	539
Difference	3	55	58

COMPLETIONS

WICHITA COUNTY

Beach, Magnolia Pet. Co. 12 10
Love, Cooper and others 1 ..... dry
Jennings, Dale Oil Corp. 20 20
Pierce, Empire Gas & Fuel Co. 17 ..... dry
Munger, K. M. A. Oil Co. 25 ..... dry
Burnett, Magnolia Pet. Co. 11 10
Rio Bravo, Mag. Pet. 42 40
Woodward, O'Neil et al ..... dry
Allen & Kemp, Pet. Prod Co. 1 ..... dry
Willis, Willis et al 1 ..... dry
M. K. & T., Vannest Oil Co. 19 ..... dry
Jackson, Panhandle Refg. Co. 4 ..... dry
Ancell, Allen et al 1 ..... dry
Jennings, Apple et al 17-A 25
Jennings, Bullington et al 14 ..... dry
Burnett, Fish Jennings Oil Co. 3 ..... dry
Hines, Hooser et al 1 100
Maer, Magnolia Pet. Co. 13 50
Ramming, Magnolia Pet. Co. 14-A 5
Douglas, Patterson et al 2 40
Beaver-Electra, Perkins et al 5 ..... dry
Powell, Ridgeway et al 4 120
Nance, Ryan Pet. Co. 51 5
Nance, Ryan Pet. Co. 52 5
McCarty, Shappell Oil Co. 7-A 60
Hines, Staley et al 1 20
Burnett, Texhoma Oil & Refg. Co. 7-E.. dry
Waggoner, Texhoma Oil & Refg. Co. 14 45
Roller, Robinson et al 22 35
Parker, Weisendinger et al 1 45
Waggoner Bros., Culberson Co. 35 ..... dry
Murrey, Electra Gulf Oil Co. 3 ..... dry
Waggoner Bros., Hunter et al 10 10
Beaver, Electra, Perkins et al 6 20
Chilson, Plummer et al 5 ..... dry
Nance, Ryan Petroleum Co. 52 10
Burnett, Texhoma Oil & Refg. Co. 5-M.. 200
Waggoner Brothers, Texhoma Oil & Refg. Co. 15 20
Mitchell, White Brothers 1-B 10
Hansard, Burt et al 1 25
Thorman, Dale Oil Corp. 1 ..... dry
Reilly, Magnolia Pet. Co. 125 ..... dry
Waggoner Brothers, Bridwell et al 1.. 15
Waggoner Brothers, Culberson et al 1 .. dry
Waggoner Brothers, Mitchell et al 1... 20
Chilson, Omohundro et al 1 25
Chilson, Omohundro et al 1 ..... dry
Chilson, Omohundro et al 3 15
Chilson, O'Neil et al 1 20
Douglas, Petroleum Prod. Co. 1 ..... dry
Chilson, Plummer et al 6 10
Hines, Staley et al 2 15
Daume, Wolfe et al 3 25
Willis, B. C. M. & T. Oil Co. 1 3
Willis, B. C. M. & T. Oil Co. 2 6
Willis, B. C. M. & T. Oil Co. 3 8
Willis, B. C. M. & T. Oil Co. 4 5
Willis, B. C. M. & T. Oil Co. 5 7
Willis, B. C. M. & T. Oil Co. 6 5
Willis, B. C. M. & T. Oil Co. 7 6
Willis, B. C. M. & T. Oil Co. 8 3
Horton, C. W. M & T. Oil Co. 1 10
Horton, C. W. M. & T. Oil Co. 2 5
Horton, C. W. M. & T. Oil Co. 3 5
Horton, C. W. M. & T. Oil Co. 4 7
Horton, C. W. M. & T. Oil Co. 5 8
Horton, C. W. M. & T. Oil Co. 6 9
Horton, C. W. M. & T. Oil Co. 7 7
Horton, C. W. M. & T. Oil Co. 8 6
Horton, C. W. M. & T. Oil Co. 9 8
Morgan, Cooper et al 15 ..... dry
Hines, Hooser et al 2 ..... dry
Hines, Maer et al 1 ..... dry
Pratt, Maer 15-A 15
Ramming, Maer et al 19-A 20
Raming, Maer et al 18-B 10
Roberts, O'Neil et al 1 ..... dry
Beaver-Electra, Perkins et al 7 ..... dry
Allen & Kemp, Petroleum Prod. Co. 19.. dry
Hines, Petroleum Prod. Co. 1 ..... dry
Nance, Ryan Pet. Co. 54 85
Nance, Ryan Pet. Co. 55 25
Nance, Ryan Pet. Co. 56 65
Michell, White Brothers 2-B 35

Wells completed 85
Dry 27
Production 1638

WILBARGER COUNTY

Stephens, Barkley et al 5-B 100
Stephens, Humble Oil & Refg Co. 41 .. 260
Waggoner, Landreth Prod. Co. 11-D .. 110
Stephens, McCamey et al 18 ..... gas
Stephens, McCamey et al 32 30
Waggoner, Milham Corp. 1-C 50
Waggoner, Gray Oil Co. 1 ..... dry
Waggoner, Humble Oil & Refg. Co. 4-I 185
Waggoner, Humble Oil & Refg. Co. 2-I.. 175
Waggoner, Landreth Prod. Co. 1-Q.... 225
Waggoner, Landreth Prod. Co. 1-U.... 75
Waggoner, Landreth Prod. Co. 2-CC... 170
Waggoner, Landreth Prod. Co. 4-CC... 300
Waggoner, Landreth Prod. Co. 1-OO.... 125
Waggoner, Morton et al 2 ..... dry
Dill, Petroleum Prod. Co. 7-A 100
Waggoner, Roxana Pet. Co. 5-A 175
Stephens, Staley et al 12 225
Dennis, Wood et al 1 ..... dry
Stephens, Humble Oil & Refg. Co. 22.. 250
Stephens, Waggoner 7-H 45
Waggoner, Landreth Prod. Co. 8-F 35
Waggoner, Landreth Prod. Co. 1-L 20
Zipperle, South Vernon Oil Co. 1 ..... dry
Zipperle, Travis Oil Co. 2 ..... dry
Woodward, Gose et al 1 ..... dry
Stephens, Humble Oil & Refg. Co. 6.... 350
Waggoner 2-M 60
Waggoner 1-O 525
Waggoner, Landreth Prod. Co. 6-A 495
Waggoner, Landreth Prod. Co. 1-BB.... 40
Waggoner, Landreth Prod. Co. 1-QQ 75
Waggoner, Jim McCamey 1 ..... dry
Stephens, McCamey et al 22 50
Zipperle, South Vernon Oil Co. 2 ..... dry
Stephens, Staley et al 13 90
Bond, Barkley et al 2 ..... dry
Stephens 6-B 30
George, Graham et al 1 15
Castlebury, Humble Oil & Refg Co. 23.. 30
Castlebury, Stephens 42 50
Castlebury, Stephens 43 50
Castlebury, Stephens 48 60
Castlebury, Waggoner 3-M 250
Castlebury, Waggoner 3-O 35
Castlebury, Waggoner 4-O 200
Waggoner, Landreth Prod. Co. 3-I 200
Waggoner, Landreth Prod. Co. 3-CC.... 125
Stephens, McCamey et al 8 ..... dry
Stephens, Stephens 33 195
Waggoner, Milham Corp. 1-B 30
Waggoner, Milham Corp. 2-B 50
Waggoner, Shamrock Oil Co. 1-K 50
Waggoner, Shamrock Oil Co. 1-W 10

Wells completed 52
Dry 10
Gas 1
Production 5660

ARCHER COUNTY

Jackson, Burns et al 1 25
Wilson, Cohen et al 5 30
Cowan, Consolidated Oil Co. 2 ..... dry
Wilson, Empire Gas & Fuel Co. 4-A.. dry
Wilson, Grigham et al 1 ..... dry
Wilson, Hardy et al 1 ..... dry
Wilson, Humble Oil & Refg. Co. 6 30
Miller, Kentucky Oil Corp. 8 5
Wilson, McCarty Oil Co. 19-B 60
Hutcherson, Pandem Oil Corp. 6 25
Nichols, Ray-Featherstone 15 15
Jackson, Shappell Oil Co. 39 65
Turbeville, Carter et al 1 ..... dry
Kreeger, Consolidated Oil Co. 3 ..... dry
Portwood, Magnolia Pet. Co. 3 25
Kunkel, Murchison et al 1 ..... dry
Kunkel, Wright 1 ..... dry
Young, Milham Corporation 1-A ..... dry
Anderson, Noel Oil Co. 6 35
Kreeger, Prairie Oil & Gas Co. 2 10
Kreeger, Kreeger 3 30
Wolf, Primrose Refg. Co. 4 25
Morrison, Texas Unity Oil Co. 1 ..... dry
Oldham, Texhoma Oil & Refg. Co. 11.. 270
Oldham, Wolf 3 240
Oldham, Wolf 4 ..... dry
Wilson, Abernathy et al 3 ..... dry
Wilson, Barkley et al 20 75
McCrory, Burns et al 2 30
Ferguson, Freeman-Hampton 18-A 60
Ferguson, Freeman-Hampton, 19-A 50
Edwards, Gray et al 1 ..... dry
Wilson, Humble Oil & Refg. Co. 1-F.. dry
Wilson-McCrory, Lewis et al 1 ..... dry
Rutty, Magnolia Pet. Co. 7 5
Hutcherson, Pandem Oil Corp. 7 55
Hutcherson, Jackson 1 ..... dry
White, Phillips Pet. Co. 92 ..... dry
Nichols, Ray-Featherstone 16 5
Nichols, Ray-Featherstone 17 ..... dry
Wilson, Riner et al 2-C ..... dry
Hamilton, Texhoma Oil & Refg. Co. 8 65
Jackson, Wichtex Oil Co. 6 ..... dry
Portwood, American Refg. Co. 6 15
Stewart, Abercrombie et al 1 ..... dry
Wolf, Beasley Drilling Co. 1 90
Rogers, British American Oil Co. 12.. dry
Rachuig, Camp Oil & Gas Co. 1 125
Kreeger, Consolidated Oil Co. 3 ..... dry
Longley, Craig et al 1 ..... dry
Hamilton, Goldsmith et al 1 ..... dry
Gross, Hunt et al 2 ..... dry
Oldham, Hammond et al 3 200
Wallace, Major Pet. Co. 1 ..... dry
Anderson, Perkins et al 11 80
Wolf, Primrose Pet. Co. 5 100
First State Bank, Ray et al 1 ..... dry
Gin Lot, Richards et al 1 ..... dry
Kreeger, Roxana Pet. Co. 2 65
Hill Texas Co. 18 10
Kreeger, Rampem Oil Corp. 3 50
Trinity Townsite Co. White et al 1 .. dry
Thom, Hammond et al 1 ..... dry
Parrish, Burns et al 1 ..... dry
Parrish, Jackson 2 ..... dry
Parrish, Brown 5 50
Hutcherson, Caldwell et al 2 40
Wilson, Carter et al 1 200
Wilson, Empire Gas & Fuel Co. 11-E.. dry
Fuchs, Hart Oil Corp. 2 ..... dry
Miller, Kentucky Oil Corp. 3 ..... dry
Wilson, McCarty Oil Co. 17-B ..... dry
Wilson, Wilson 20-B 60
Wilson, Wilson 6-C 30
Fee, Oil Investment Co. 13 10
Parrish, Staley et al 3-A 15
Parrish, The Texas Company 1 75
Wilson, Wanderer Oil Co. 1 ..... dry
Abney, Young et al 3 ..... dry
Wilson, Consolidated Oil Co. 1 5
Wilson, Harris 1 ..... dry
Prideaux, Ising Prod. Co. 1 ..... dry
Morrison, Maer et al 1 40
Morrison, Knight 1 ..... dry
Lauster, M. & V. Oil Co. 4 ..... dry
Fee, Pandem Oil Corp. 10 130
Fee, Fee 11 25
Kunkel, Petroleum Producers Co. 1 85
Kreeger, Phillips Pet. Co. 1 60
Kreeger, Prairie Oil & Gas Co. 4 ..... dry
Kreeger, Roxana Pet. Co. 3 ..... dry
Abercrombie-Taylor, Texhoma Oil & Refining Co. 4 130
Abercrombie-Taylor, Wolf 1-A 35
Kreeger, Wampem Oil Corp. 4 20
Wilson, Barkley et al 21 ..... dry
Parrish, Chenault et al 1 ..... dry
Turbeville, Empire Gas & Fuel Co. 1.. 55
Turbeville, Young 1 ..... dry
Wilson, Pandem Oil Corp. 1 ..... dry
Parrish, Staley et al 4-A ..... dry
Parrish, Parrish 5-B 95
Parrish, Parrish 6-B 100
White, Wilson Drilling Co. 1 150
Oldham, Atlantic Oil Prod. Co. 1 ..... dry
Wolf, Beasley et al 1 60
Seay, Booler et al 1 15
Darilek, Bowers et al 1 ..... dry
Wolf, Consolidated Oil Co. 2 95
Rachuig, Camp Oil & Gas Co. 2 ..... dry
Martin, Carter et al 1 90
Brom, Hughes et al 13 ..... dry
Prideaux, Ising Prod Co. 2 50
Kunkel, M. & V. Oil Co. 5 5
Darilek, Merrick et al 2 55
Fee, Pandem Oil Corp 9 ..... dry
Fee, Pandem Oil Corp. 12 100
Kevar, Prairie Oil & Gas Co. 2 100
Pandem, Roxana Pet. Co. 1 15
Graham, Sun Company 2 65
Hayter, Shay et al 5-A ..... dry
Jeske, The Texas Company, 4 40
Prideaux, The Texas Company 1 400
Oldham, Texhoma Oil & Refg. Co. 12 .. 5
Wolf, Texhoma Oil & Refg. Co. 12 .. 160
Wilson, Atlantic Oil Prod. Co. 11-C... 90
Wilson, Barkley et al 22 ..... dry
Jackson, Burns et al 3 75
Brown, Burns, et al 7 ..... dry
Humphrey, Creath et al 1 45
Dycus, Harris et al 1 ..... dry
Hutcherson, Hill et al 1 15
Hutcherson, Hill et al 5 ..... dry
Wilson, McCarty Oil Co. 21-B 250
Hutcherson, Pandem Oil Corp 8 30
Parrish, Ramming et al 1 45
Wilson, R. M. F. Oil Corp. 1 ..... dry
Parrish, Staley et al 7-B ..... dry
Mangold, Shasta Oil Co. 1 70
Mangold, Shasta Oil Co. 2 5
Mangold, Shasta Oil Co. 3 10
Mangold, Shasta Oil Co. 4 10
Mangold, Shasta Oil Co. 5 15
Mangold, Shasta Oil Co. 7 10
Hamilton, Texhoma Oil & Refg. Co. 7.. 140
Britton, Whitman et al 1 ..... dry
Abney, Young et al 2 25
Rogers, Fisher et al 8 50
Neal, Hammond et al 1 ..... dry
Portwood, Magnolia Pet. Co. 9 15
McCurtry, Meyers et al 1 ..... dry
Anderson, Perkins et al 13 135
Wolf, Pioneer Refg. Co. 1 200
Wolf, Primrose Pet. Co. 6 100
Hayter, Shaw et al 6-A ..... dry
Hausler, Shaw et al 1-D ..... dry
Megargel School Lot, Spoonts et al 1.. dry
Wolf, Texhoma Oil & Refg. Co. 5.. 235
Wolf, Texhoma Oil & Refg. Co. 2-A ... 10

Wells completed 158
Dry 66
Production 5375

YOUNG COUNTY

Chandler, Atlantic Oil Prod. Co. 1 .... dry
Chandler, Wainscott 1 ..... dry
Boren, Bridwell et al 5 175
Boren, Streets 2 ..... dry
Campbell, Camp Oil & Gas Co. 3 5
Thomas, Carey et al 1 ..... dry
Hayley, Daniels et al 1 ..... dry
McClatchey, Golding et al 1 ..... dry
Hamilton, Rowe, Drilling Co. 9 ..... dry
Hayley, Wright et al 1 ..... dry
Farmer, Bridwell et al 1 35
Campbell, Camp Oil & Gas Co. 1 ..... dry
Benson, Carter et al 1 35
Wilson, Swastika Oil Synd. 1 ..... dry
Campbell, Tidal Oil Co. 20 ..... dry
Graham, White et al 1 ..... dry
Wells, Atlantic Oil Prod. Co. 3 ..... dry
Bishop, Cark et al 4 40
Benson, Nine Hundred Oil Co. 7 ..... dry
Portwood, Batex Oil Co. 1 ..... dry
Street, Bridwell et al 3 10
Campbell, Camp Oil & Gas Co. 4 ..... dry
Benson, Carter et al 2 35
Eichelberger, Kay et al 1 ..... dry
Butler, Plains Prod. Co. 2 ..... dry
Andrews, Reed et al 1 ..... dry
Boren, The Texas Company 3 125
Edwards, Texas Unity Oil Co. 1 ..... dry
Benson, Underwood Drilling Co. 1 50
Teague, Beavers et al 1 ..... dry
Farmer Bridwell et al 2 160
Benson, Carter et al 3 80
Benson, Hoyle et al 15
Boyd, Hoffer Oil Corp. 1 ..... dry
Freeman, McElreath et al 1 ..... dry
Boren, Prairie Oil & Gas Co. 4 175
Neeley, Roxana Pet. Co. 1 ..... dry
Benson, Tidal Oil Co. 1 35

Wells completed 38
Dry 25
Production 960

STEPHENS COUNTY

Cunningham, Gardner et al 2 35
Hill, Mid-Kansas Oil & Gas Co. 5 30
Hill, Lee, 1 35
Morrison, Mid-Tex Oil Co. 1 ..... gas
Akin, Brown & Company 4 ..... gas
Akin, Magnolia Pet. Co. 2 ..... gas
Bruce, Price et al 6 50
Akin, Landreth Prod. Co. 1 90
Swenson, Swensondale Oil Co. 1-B ..... gas
Binney, Texas Pacific Coal & Oil Co. 61 50
Hill, Mid-Kansas Oil & Gas Co. 9.. 3640
Cunningham, Mid-Kansas Oil Co. 4 100
Litton, Carter et al 2 20
Smith, Humble Oil & Refg. Co. 6 40
McCleskey, McKinney et al 2 ..... dry
Binney, Texas Pacific Coal & Oil Co. 62 dry
Veale, Texas Pacific C. & O. Co. 10.... dry
Smith, Humble Oil & Refg. Co. 5 5
Gratz, Landreth Prod. Co. 3 70
Hawkins, States Oil Corp. 2 ..... dry
Wells completed 20

Dry 4
Gas 4
Production 4205

EASTLAND COUNTY

Harris, Magnolia Pet. Co. 9 ..... dry
Martin, Pitzer et al 1 ..... dry
Kise, States Oil Corp. 1 ..... dry
White, Eastland Oil Co. 1 60
Hankins, Magnolia Pet. Co. 2 ..... dry
Pettit, Magnolia Pet. Co. 2-B ..... gas
Bivins, The Texas Company 1 85
Smith, Johnson et al 1 ..... dry
Kimbrough, Leon Oil Co. 1 ..... dry
Whitson, Cornelius Brothers 1 ..... gas
University, Lewis et al 1 ..... dry
Pease, Texas Pacific Coal & Oil Co. 1.. dry
Motes, Batesman et al 1 85
Collins, Cranfill et al 1 15
 ..... dry

Wells completed 14
Dry 9
Gas 2
Production 160

BROWN COUNTY

Koenig, Canyon Oil & Gas Co. 1 ..... dry
Dunn, Carter et al 1 ..... dry
Pickett, Conway Brothers 3 120
Newton, Gillespie et al 1 80
Prather, Mulloy et al 5 30
Prather, Mulloy et al 6 10
Smith, Robert Oil Corp. 1 130
Allen, States Oil Corp. 1-A ..... dry
Chambers, Conway Brothers 4 ..... gas
Westerman, Cosden Company 9 325
Prather, Gillett et al 6 800
Chambers, Chambers 9 20
Hodnett, Humble Oil & Refg. Co. 1.. 40
Kilgore, Humble Oil & Refg. Co. 1.. 65
Allen, McCarter et al 1 90
Wooldridge, McLester Oil Co. 1-B .. 140
Gaines, Prairie Oil & Gas Co. 13 75
Clark, Moore et al 1 60
Dunn, Barkley et al 1 ..... dry
Dunn, Barkley et al 2 480
Prather, Pandem Oil Corp. 1 1200
Prather, Rhodes et al 10 ..... dry
Church lot, Carter et al 1 10
Gafford, Cosden Co. 9 100
Eddington, Danciger et al 2 15
Byrd, Dozier et al 2 15
Clark, McLester Oil Co. 6 ..... dry
Eddington, Mahlstedt Oil Co. 1 50
Prather, Schaffner et al 7 ..... dry
Allen, States Oil Corp. 2-A 5
Gunn, Stone & Co. 6 120
Dunn, The Texas Company 1 35
 1125

Wells completed 30
Dry 4
Gas 1
Production 5705

CALLAHAN COUNTY

Block 3, Kirk et al 1 ..... dry
Block 9, McCamey et al 1 ..... dry
McDonough, Mook Texas Oil Co. 7 120
Block 12, Stone et al 2 100
Harlow, Kirk et al 1 ..... dry
Smart, Southern Petroleum Explo. Co. 1 dry
Derrington, Wakefield et al 1 30

Wells completed 7
Dry 4
Production 250

REAGAN COUNTY

University, Texon Oil & Land Co. 1-A .. 270
University, Big Lake Oil Co. 52 400
University, Big Lake Oil Co. 53 200
University, Big Lake Oil Co. 58 2190
University, Big Lake Oil Co. 59 1040
University, Big Lake Oil Co. 37-A 925
University, Big Lake Oil Co. 62 520
Sawyer, Peer Oil Corp. 1 ..... dry

Wells completed 8
Dry 1
Production 5540

HUTCHINSON COUNTY

Smith, McIlroy & Herring 1 125
Smith, McIlroy Brothers 2 1000
Weatherly, McKinney et al 1 20
Kingsland, Canadian River Oil Co. 1.. 1000
Borton, New Domain Oil Co. 1 50
Kingsland, Travelers Oil Co. 1 90
Smith, Hutchinson County Oil Co. 1 ... 30
Smith, Phillips Petroleum Co. 2 650

Wells completed 4
Dry 0
Production 2955

CLAY COUNTY

Bullington, Sullivan et al 1 ..... dry
Boddy, Berring et al 3 20
Chapin, Nelson et al 1 ..... dry
Lynsky, Cooper et al 1 ..... dry
Jones, The Texas Company 4 ..... dry

Wells completed 5
Dry 4
Production 20

MONTAGUE COUNTY

Hinds, Benton et al 2 105
Rowland, Texhoma Oil & Ref. Co. 4-A. 55
Hinds, Humphreys Oil Co. 3 150
Oldham, The Texas Company 2 40
Black, Wilcox et al 1 ..... dry
Cunningham, Waite Phillips 1 ..... gas
Oldham, The Texas Company 3 35
Hinds, Leah et al 1 110
Gist, The Texas Company 6-A 30
Howard, Texhoma Oil & Ref. Co. 8 60

Wells completed 10
Dry 1
Gas 1
Production 585

THROCKMORTON COUNTY

Stubblefield, Humble Oil & Ref. Co. 2. 130
Davis, Magnolia Petroleum Co. 1..... dry
Upaher County School Land, McDannald et al 2 15
Portwood, Murchison et al 1 ..... dry
Reynolds, Texhoma Oil & Ref. Co. 3 ... dry

Wells completed 5
Dry 3
Production 145

SHACKELFORD COUNTY

Black Bros., Helf et al 1 ..... dry
Taylor, Milham Corp. 1 ..... dry
Dowell, Roberts et al 2 ..... dry
Cook, Roeser & Pendleton 2 720
McLemore, Wells et al 1 ..... dry
Reynolds, Hope Petroleum Co. 7 20
Lynch, Phillips Petroleum Co. 5 200
Cook, Roeser & Pendleton 1 ..... dry
Moberly, Tannehill et al 15 ..... dry
Russ, Mahlstedt Oil Co. 1 ..... dry
Moberly, Hoffman et al 1 ..... dry
Newell, Hope Petroleum Co. 1 ..... dry
Elliott, Reilly et al 1 ..... dry
Poindexter, Spoonts et al 2 ..... dry
Green, The Texas Company 1 ..... dry

Wells completed 15
Dry 12
Production 940

COLEMAN COUNTY

Harris, Canyon Oil & Gas Co. 1 ..... dry
Aston, Gillman et al 1 ..... dry
McDermott, McLester Oil Co. 1 ..... dry
McClellan, Merry Bros. 1 ..... dry
Gates, Sunflower Oil Co. 4 ..... dry
Terry, Allen et al 1 ..... dry
McClatchey, Burt et al 1 ..... dry
Atkinson, Mahlstedt Oil Co. 1 ..... dry
Howe, McCamey et al 1 ..... dry
McCrary, Monroe Prod. Co. 1 ..... dry
Parsons, Cranfill et al 1 ..... dry
Sackett, Moore et al 1 ..... dry
Mitchell, Pandem Oil Corp. 1 ..... dry

Wells completed 13
Dry 13
Production 00

BAYLOR COUNTY

Mills, Cranfill et al 5 ..... dry
Portwood, Murchison et al 1 ..... dry
Stevens, Wood et al 1 ..... dry
Stevens, Gatewood et al 1 ..... dry
Alexander, Roxana Pet. Corp. 1 ..... dry
Portwood, Magnolia Pet. Co. 4 ..... dry

Wells completed 6
Dry 6
Production 0

HASKELL COUNTY

Colbert, Wolf et al 1 ..... dry
Proctor, Adams et al 1 ..... dry

Wells completed 2
Dry 2
Production 0

PALO PINTO COUNTY

Pollard, Adams et al 2 ..... dry
Shapard, Spoor et al 1 ..... dry
Hinkson, Ochiltree et al 1 ..... dry

Wells completed 3
Dry 3
Production 0

CARSON COUNTY

Burnett, American Ref. Co. 5-A 250
Wells completed 1
Dry 0
Production 250

HOWARD COUNTY

O'Daniel, Marland Oil Co. 1 10

Wells completed 1
Dry 0
Production 10

CULBERSON COUNTY

Fee, Gresham Bros. 1 ..... dry

Wells completed 1
Dry 1
Production 0

TOM GREEN COUNTY

Williams, Church et al 1 ..... dry

Wells completed 1
Dry 1
Production 0

CROCKETT COUNTY

Powell, Cromwell et al 1 360

Wells completed 1
Dry 0
Production 360

MITCHELL COUNTY

Womack, Atlantic Oil Prod. Co. 3 75
Morrison, California Co. 15 65
Adams, Eastland Oil Co. 1 60

Wells completed 3
Dry 0
Production 200

UPTON COUNTY

Burleson, Dixie Oil Co. 1 25

Wells completed 1
Dry 0
Production 25

REEVES COUNTY

Tatum, Deep Rock Oil Co. 1 ..... dry

Wells completed 1
Dry 1
Production 0

MOORE COUNTY

Masterson, Amarillo Oil Co. 2-A ..... gas

Completions 1
Gas 1

WHEELER COUNTY

Company, Midwest Explo. Co. 1 ..... dry

Wells completed 1
Dry 1

COLLIN COUNTY

Anderson, Heartwell Syndicate 1 ..... dry

Wells completed 1
Dry 1

WICHITA COUNTY

Rigs

Dutton, Simms Oil Co. 2.
McCarty, Shappell Oil Co. 3-A.

Wells Drilling

Warren, Cosy Oil Co. 10, 11.
Reilly, Magnolia Pet. Co. 128.
Warren, Magnolia Pet. Co. 10.
Beach, Texhoma Oil & Ref. Co. 1-A.
Harrell, Jeffers et al 1.
Jennings, Apple et al 18-A.
McCormick, Armstrong et al 1.
Sheldon, Cochran et al 1.
Waggoner, Culberson Co. 36.
Waggoner, Culberson & Hunter 2.
Waggoner, Empire Gas & Fuel Co. 12-A.
Allingham, Hereford Oil Co. 2-A.
Waggoner, Humble Oil & Ref. Co. 1-D.
Jennings, Jones et al 1.
Honaker, Magnolia Pet. Co. 70.
Kelly, Magnolia Pet. Co. 1.
Maer, Magnolia Pet. Co. 2-A.
Rio Bravo, Magnolia Pet. Co. 54.
Watkins, Magnolia Pet. Co. 11.
Burnett, Moore et al 1.
Chilson, Omohundro et al 4.
Rio Bravo, O'Neill et al 34.
Powell, Panhandle Ref. Co. 1.
Douglas, Petroleum Producers Co. 2.
Chilson, Plummer et al 7.
Hines, Staley et al 3.
Edgerly, Texhoma Oil & Ref. Co. 1.
Douglas, Texhoma Oil & Ref. Co. 1.
Mitchell, Texhoma Oil & Ref. Co. 3.
Waggoner, Texhoma Oil & Ref. Co. 16.
Allen & Kemp, Underwood Drilling Co. 1.
Snow, United Prod. Co. 1.
Nance, Weaver et al 1.
Rigs, 2; wells drilling, 34; total, 36.

WILBARGER COUNTY

Rigs

Chauncey & Gambill, Humble Oil & Ref. 1.
Waggoner, Landreth Prod. Co. 9-A, 1-WW.
Haney, Wood et al 1.

Wells Drilling

Sigler-Waggoner, Atlantic Oil Prod. Co. 3, 4.
Stephens, Barkley et al 11-A.
Stephens, Bridwell et al 13.
Castlebury, Burton et al 3.
Stephens, Humble Oil & Ref. Co. 4-A, 45, 46.
Waggoner, Humble Oil & Ref. Co. 5-G, 8-H, 9-H, 3-K, 4-K, 1-L, 1-N, 5-O.
Waggoner, Independent Oil & Gas Co. 1.
Waggoner, Landreth Production Co. 7-A, 7-D, 4-G, 5-G, 6-G, 3-I, 2-M, 2-Q, 5-CC, 1-EE, 1-HH, 3-NN, 4-NN, 1-PP, 2-QQ, 1-SS, 1-AAA.
Stephens, McCamey et al 10, 18, 30, 31, 34.
Fee, Magnolia Pet. Co. 71.
Piper, Magnolia Pet. Co. 48.
Sumner, Magnolia Pet. Co. 52
Moore-Waggoner, Magnolia Pet. Co. 2.
Waggoner, Milham Corp. 2-A, 3-B, 1-D, 5,-H, 2-L.
Waggoner, Miller Oil Co. 2.
Streit, Murchison et al 1.
Section 19, Rio Bravo Oil Co. 1.
Waggoner, Roxana Pet. Corp. 6-A, 7-A, 8-A.
Waggoner, Shamrock Oil Co. 1-B.
Waggoner, Shipley et al 1.
Waggoner, Sloan et al 2.
Bond, Staley et al 13-B.
Guggisburg, The Texas Company 1.
Zipperle, The Texas Company 1.
Waggoner, Texhoma Oil & Ref. Co. 1.
Waggoner, Waggoner Ref. Co. 1-A.
Waggoner, Whitehead et al 1-A.
Lloyd, Winnipeg Oil Co. 1.
Rigs, 4; wells drilling, 65; total, 69.

ARCHER COUNTY

Rigs

Wilson, Burns et al 1.
Plowman, Stewart Dev. Co. 8.
Oldham, Atlantic Oil Prod. Co. 3.
Bell, Camp Oil & Gas 2.
Wolf, Humble Oil & Ref. Co. 3.
Pace, Murchison et al 1.
Meade, Shasta Oil Co. 1.
Inman, Howard Pet. Co. 1.

Wells Drilling

Ferguson, Darr et al 1.
Perkins, Anderson et al 5.
Curry, Ashcraft et al 1.
Jackson, Burns et al 1.
Brown, Burns et al 6.
Parrish, Chenault et al 2.
Moss, Hart et al 1.
Hutcherson, Hill et al 6.
Rutty, Magnolia Pet. Co. 6.
Wilson, McCarty Oil Co. 23-B, 7-C.
White, Panhandle Ref. Co. 1.
Albright, Waite Phillips 1.
Wilson, Waite Phillips 15-B, 16-B.
Mangold, Roxana Pet. Corp. 1.
Wilson, Shappell Oil Co. 1-A.
Sloop, Sorsfield et al 1.
Parrish, Staley et al 5-A, 8-B.
Dycus, The Texas Company 1-B.
Turbeville, The Texas Company 1-B.
Carter, The Texas Company 11.
Wilson, The Texas Company 33-B.
Parrish, Texhoma Oil & Ref. Co. 2-A.
Griffin, Tidal Oil Co. 1.
McCrory, Whittiken et al 1.
Wilson, Woods et al 1-A.
Portwood, American Ref. Co. 7.
Lowe, Barnsdall Oil Corp. 2.
Ward, B. S. & B. O Oil Co. 1.
Rogers, Fisher et al 9.
Lauster, Golding et al 2.
Prideaux, Ilsing Prod. Co. 5.
Lowe, Magnolia Pet. Co. 14.
Portwood, Magnolia Pet. Co. 10.
Kreeger, Prairie Oil & Gas Co. 5, 6.
Fee, Richards et al 1.
Pandem, Roxana Pet. Corp. 2, 3.
Robinson, Shaw et al 1.
Bearden, The Texas Company 7.
Hill, The Texas Company 19.
Hill, The Texas Company 20.
Prideaux, The Texas Company 2.
Kreeger, Texas Unity Oil Co. 1.
Prideaux, United Prod. Co. 1.
Oldham, Atlantic Oil Producing Co. 2.
Bell, Camp Oil & Gas 1.
Cowan, Carter et al 4.
Coody, Consolidated Oil Co. and The Texas Company 2.
Turbeville, Creath et al 1.
Holley, Decker et al 1.
Anderson, Perkins et al 13.
Rigs, 8; wells drilling, 55; total, 63.

YOUNG COUNTY

Rig

Powell, Atlantic Oil Prod. Co. 3.

Wells Drilling

McClatchey, Adams et al 1.
Stewart, Appleby et al 2.
Donnell, Atkinson et al 1.
Powell, Atlantic Oil Prod. Co. 2.
Marshall, Brashear et al 3.
Teague, Beavers et al 1.
Vernon, Christie Brothers 1.
Calvin, Log Cabin Oil Co. 1.
Rig, 1; wells drilling, 8; tota, 9.

STEPHENS COUNTY

Rigs

Hill, Mid-Kansas Oil & Gas Co. 14.
Morrison, Mid-Tex Oil Co. 2.
Vick, Mid-Tex Oil Co. 1.
Akin, Brown & Co. 3.
Brown, Humble Oil & Ref. Co. 1.
Grimes, Kleinfelder et al 4.
Binney, Texas Pacific Coal & Oil Co. 63.
Hancock, Texas Pacific Coal & Oil Co. 1.

Wells Drilling

Bradford, Adamson et al 1.
Bradford, Barnhart et al 1.
Goforth, Corzelius Brothers 1.
Crowley, Edison et al 4.
Curry, Hanlon Gasoline Co. 1.
Chesley, Merideth et al 1.
Harmon, Quakins Pet. Co. 12.
Rigs, 8; wells drilling, 7; total, 15.

EASTLAND COUNTY

Rigs

Ross, Moorman et al 1.

Wells Drilling

Connollee, Amyx et al 1.
Poe, Corzelius Bros. 1.
Johnson, Hart Bros. 1.
Strickland, Root et al 1.
White, Rumbaugh et al 1.
Morgan, Simons et al 1.
Blackwell, Kirk et al 1.
McMinn, Magnolia Pet. Co. 1-B.
Rice, Magnolia Pet. Co. 2.
Wright, Panhandle Ref. Co. 1.
Butler, Texas Pacific Coal & Oil Co. 26.
Rigs, 1; wells drilling, 11; total, 12.

BROWN COUNTY

Rigs

Allgood, Anderson et al 1.
Dunn, Barkley et al 6.
Westerman, Cosden Co. 8.
Carmichael, Gibson Oil Co. 1.
Dunn, Humble Oil & Ref. Co. 7.
Clark, McLester Oil Co. 6.
Eubanks, Mahlstedt Oil Co. 1.
Gaines, Simms Oil Co. 7.
Newton, Slick et al 2.
Dunn, E. L. Smith Oil Co. 2.
Giddings, Superior Oil Co. 1.

Wells Drilling

Williams, Anderson et al 1.
Prather, Barbour Oil Co. 7-B, 8-B.
Dunn, Barkley et al 3, 4, 5.
Boysen, Boysen et al 1.
Stapp, Carter et al 1.
Wheeler, Carter et al 1.
Chambers, Conway Bros. 5.
Pickett, Conway Bros. 5.
Westerman, Cosden Co. 7.
Allgood, Cox et al 1.
Kilgore, Curry et al 1.
Canon, Denney et al 1.
Graham, Douglass et al 1.
Newton, Gillespie et al 2.
Chambers, Gilman et al 9.
Lewis, Gray et al 1.
Byrd, Cross et al 2.
McDonough, Haggard et al 2.
Ariedge, J. K. Hughes Dev. Co. 2.
Dunn, Humble Oil & Ref. Co. 4, 5.
Hodnett, Humble Oil & Ref. Co. 2.
Stover, Humble Oil & Ref. Co. 2.
Graham, Jarvis et al 1.
Prather, Landreth Prod. Co. 1.
Allen, McCarter et al 2.
Woolridge, McLester Oil Co. 3.
Eddington, Milham Corp. 1.
Newton, Mook Texas Oil Co. 4.
Byrd, Moorman et al 1.
Gaines, Mount et al 2.
Turner, Prairie Oil & Gas Co. 1.
Buzbee, Root et al 1.
Lewis, Shadbolt et al 1.
Starr, Slick et al 3.
Dunn, E. L. Smith Oil Co. 2.
Eddington, E. L. Smith Oil Co. 1.
Allen, States Oil Corp. 2-A.
Dunn, The Texas Company 2, 3, 4.
Gaines, Arkansas Fuel Oil Co. 1.
Clark, Moore et al 2.
Rigs, 11; wells drilling, 46; total, 57.

COLEMAN COUNTY

Wells Drilling

Dibrell, Burke et al 1.
Parsons, Canyon Oil & Gas Co. 1.
Sealy, Curtis et al 1.
Walker, Evans et al 1.
Morris, French et al 1.
Morris, Hughes et al 1.
Morris, Magnolia Pet. Co. 1.
Dibrell, Mid-Kansas Oil & Gas Co. 1.
Dibrell, Midwest Explo. Co. 1.
Morris, Moore et al 1.
Baker, Owen et al 1.
Neeb, Pennant Oil & Gas Co. 1.
Helton, Superior Oil Co. 1.
Whitfield, Gillespie et al 1.
Stearns, Howard Pet. Co. 1.
Hutchings, Monroe Prod. Co. 1.
Overall, Monroe Prod. Co. 2.
Overall, Raney et al 1.
Haygood, Ross et al 1.
Wells drilling, 19; total, 19.

CALLAHAN COUNTY

Wells Drilling

Barr, Canyon Oil & Gas Co. 4.
Seamans, Clark et al 1.
Terry, Diamond et al 1.
Maddux, French et al 1.
Baum, Mook Texas Oil Co. 1.
Gorsuch, Transcontinental Oil Co. 1.
Block 21, Weller Bros. 1.
Barr, Wilkerson et al 1.
Wells drilling, 5; total, 8.

MITCHELL COUNTY

Adams, California Co. 2.
Womack, California Co. 4.
Rig, 1; wells drilling, 7; total, 8.

HUTCHINSON COUNTY

Rigs

Watkins, Bear Creek Oil Co. 1.
Kingsland, Canadian River Oil Co. 3.
Smith, Dixon Creek Oil Co. 5.
Thompson, Inspiration Oil Co. 1.
Fee, Kingsland et al 1.
Smith, McMan Oil Co. 2.
Kingsland, Phillips et al 4.
Smith, Riley et al 1.
J. A. Whittenburg, Summit Oil Co. 2.
Kingsland, Travelers Oil Co. 2.
Kingsland, Twin Six Oil Co. 5.
J. W. Whittenburg, White Eagle Oil & Ref. Co. 1.
J. A. Whittenburg, Whittenburg-Coble Oil Co. 1.

Wells Drilling

J. A. Whittenburg, American Ref. Co. 1.
Lewis, Badger Oil Co. 1.
J. A. Whittenburg, Canyon Oil Co. 1, 2.
Smith, Cockrell-McIlroy Co. 1.
J. A. Whittenburg, Crosble et al 1.
Smith, Currie Bros. 1.
Smith, Dixon Creek Oil Co. 3, 4.
J. A. Whittenburg, Dunnigan et al 1.
Weatherly, Fly-Blackburn Oil Co. 1.
Kingsland, Gates Oil Corp. 1.
Johnson, Gibson Oil Co. 1.
Hodges, Golding Phillips Oil Co. 1.
Cockrell, Heywood et al 1.
Smith, Holmes et al 1.
Smith, Lucky Ten Oil Co. 1.
Smith, McIlroy Bros. 1.
Smith, McIlroy & Herring 2.
Johnson, McMan Oil Co. 1.
Johnson, Morton et al 1.
Weatherly, Phillips et al 1.
Smith, Phillips & Heywood 1.
G. A. Whittenburg, Phillips Pet. and Gibson Oil 2.
Cockrell, Phillips Pet. and Pulaski Oil Co. 1.
Johnson, Phillips Pet. et al 1.
Smith, Phillips Pet. Co. 4.
J. A. Whittenburg, Phillips Pet. Co. 1, 2.
Johnson, Phillips Pet. and Pulaski Oil 1.
Weatherly, Prairie Oil & Gas Co. 2.
Smith, Relief Oil Co. 1.
Smith, Roxana Pet. Corp. 1-B, 3.
Johnson, Skelly Oil Co. 1-A.
J. A. Whittenburg, Skelly Oil Co. 1, 2, 3.
Smith, Spring Creek Oil Co. 1.
Cooper, The Texas Company 1.
Burnett, The Texas Company 7.
Kingsland, Twin Six Oil Co. 3, 4.
Cockrell, Ward et al 1.
Johnson, White Eagle Oil & Ref. Co. 1.
Smith, White Eagle Oil & Ref. Co. 3.
Rigs, 13; wells drilling, 47; total, 60.

SHACKELFORD COUNTY

Rigs

Cannon, Melton Oil Co. 1.
Elliott, Reilly et al 2.

Wells Drilling

Cook, Amerada Pet. Corp. 1.
Black, Buckeye Pipe & Supply Co. 1.
Davis, Cartaret Oil Co. 1.
Matthews, Dunbar et al. 1.
Matthews, Engle Bros. 2.
Davis, Hope Pet. Co. 1.
Myer, Hughes et al 1.
Cook, Humble Oil & Ref. Co. 1.
Terry, Magnolia Pet. Co. 4.
Edwards, Melton et al 1.
Sedwick, Milham Corp. 1.
Simpson, Milham Corp. 1.
Spell, Milham Corp. 1.
Snyder, Moutray Oil Co. 2.
Colbert, Richardson Bros. 1.
Cook, Roeser & Pendleton 1-A-81, 1-A-84, 3-A-85, 1-B-95.
Myrick, Simms Oil Co. 1.
Rigs, 2; wells drilling, 20; total, 22.

REAGAN COUNTY

Rigs

University, Texon Oil & Land Co. 44 Group 1.

Wells Drilling

University, Big Lake Oil Co. 51, 57, 63, 64, 65, 66, 67.
University, Camp et al 1.
Cole, Marland Oil Co. 1.
University, Tannehill et al 1.
Sugg, The Texas Co. 1.
University, Texon Oil & Land Co. 1-B, 38 Group 1, 39 Group 1, 40 Group 1, 41 Group 1, 43 Group 1.
Talley, Zoch et al 1.
Rig, 1; wells drilling, 18; total, 19.

WILDCATS

Rigs

Moore County—
Sneed, Flowers et al 1.
Wheeler County—
Phillips, Gibson Oil Co. 2.
Clay County—
Inman, Howard Pet. Co. 1.
Montague County—
Steadman, Universal Oil Co. 1.
Scurry County—
Towle, Morrison et al 1.
Crockett County—
Powell, J. K. Hughes 1, Section 80.

Wells Drilling

Moore County—
Sneed, Clark et al 1.
Potter County—
Bivins, Amarillo Oil Co. 4-A.
Bivins, Prairie Oil & Gas Co. 1.
Carson County—
Bivins, Amarillo Oil Co. 2-B.
Burnett, Cosden Co. 1.
Burnett, Gas Oil Corp. 2.
Burnett, Marland Oil Co. 1-A, 1-B.
McConnell, Young et al 1.
Gray County—
Merten, Clark et al 1.
Brown, The Texas Company 1.
Saunders, The Texas Company 2.
Wheeler County—
Porter, Midwest Exploration Co. 2.
O'Gorman, Vaughan et al 1.
Hardeman County—
Evans, Staley et al 1.
Foard County—
Easley, Humble-Navarro Oil Co. 1.
McCoy, The Texas Company 1.
Clay County—
Holloway, Lone Star Gas Co. 19.
Camp, Western Oil Corp. 1.
Culbertson, Lowry Oil Corp. 1.
Winfrey, Southern Core Drilling Co. 1.
Montague County—
Hinds, Benton et al 5.
Hinds, Flemming et al 2.
Howard, Humphreys Oil Corp. 2.
Hinds, Lesh et al 2.
Maddox, Pure Oil Co. 1-A.
Maddox, The Texas Company 1-B.
Cooke County—
Hyman, Lanier et al 1.
Wise County—
Cassidy Southwestern Com. Co., Magnolia pet Co. 2.
Castlebury, Transcontinental Oil Co. 1.
Kent County—
Barron, The Texas Company 1.
Garza County—
Boren, Emerald Oil Co. 1.
Rogers, Midwest Explo. Co. 1.
Scurry County—
Welborn, Northwest Oil Co. 1-A.
Palo Pinto County—
Dalton, Jack Dalton Oil Co. 6.
Dalton, Jack Dalton et al 1.
McClure, Whatley et al 1.
Edgin, Dalton et al 1.
Cardwell, Hart et al 2.
Rasmussen, Pender Prod. Co. 2.
Costello, Whatley et al 1.
Winkler County—
Hendrick, Westbrook et al 1.
Comanche County—
Evans, Brown Drilling Co. 1.
Powers, Milham Corp. 1.
Concho County—
Schultz, Dutton et al 1.
Schultz, Kimberline et al 1.
Tom Green County—
Turner, Penn et al 1.
Clark, Roxana Pet. Co. 1.
Upton County—
Burleson, Dixie Oil Co. 2.
Halff, Hults et al 1.
Halff, Germany et al 1.
Union Land, Plateau Oil Co. 1.
Burleson, Plateau Oil Co. 3.
Sanger Bros., Plateau Oil Co. 2.
Noelke, Marland Oil Co. 1.
Union Land, Zoch et al 1.
Ruhmann, Zoch et al 1.
Keith, Zoch et al 1.
Crane County—
Penix, Gilliam & Logan 1.
Cowden, Marland Oil Co. 1.
Cowden, Penn-Tex Dev. Co. 1.
Cowden, Texas Dev. Co. 1.
Ward County—
Marston, Chesapeake Oil Co. 1.
Reeves County—
Kloh & Rumsey, Humble Oil & Ref. Co. 1.
Kloh & Rumsey, World Oil Co. 1.

Jeff Davis County—
McCutcheon, Humble Oil & Ref. Co. 1.
Pecos County—
Herschenson, Dixie Oil Co. 1.
Perry, Transcontinental Oil Co. 1.
Devlin, Smith et al 1.
Bennett, Trans-Pecos Oil Co. 2.
Crockett County—
Powell, Cromwell et al 2.
Shannon, Crockett Drilling Syndicate 2.
Boelke, Cosden Co. 1.
Powell, Humble Oil & Ref. Co. 4.
Powell, J. K. Hughes 1.
University, Humphreys Oil Corp. 1.
Shannon, Magnolia Pet. Co. 1.
Powell, Roxana Pet. Corp. 1.
Todd, The Texas Company 1.
Rigs, 6; wells drilling, 78; total, 84.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Hunt	1	0	1	0	0	3	3
Milam	1	0	1	0	0	1	1
Navarro	3	10	2	0	1	3	4
Limestone	1	0	1	0	2	7	9
Miscellaneous	0	0	0	0	2	13	15
Total Mar.	6	10	5	0	5	27	32
Total Feb.	7	150	5	1	4	26	30
Difference	1	140	0	1	1	1	2

MISCELLANEOUS
Wells Completed

Hunt County—
Holden, Rycade Pet. 1 ..... dry
Milam County—
McKinney, Reiter-Foster et al 1 ..... dry
Navarro County—
Burke, Penn & Walker 1 ..... dry
Tucker, Dixon et al 1 10
McGaw, Homa Okla Oil 5 ..... dry
Limestone County—
DeLong, Reiter-Foster et al 1 ..... abd

Wells completed 6
Production 10
Dry 5

Rigs and Wells Drilling
Rigs

Hunt County—
Robinson, Rycade Oil Co. 1.
Limestone County—
Hargrove, Essenmyer et al 1.
DeLong, Reiter-Foster Corp. et al 2.
Navarro County—
Slaughter, Kerr & Gillette 1.
Freestone County—
Bounds, Patterson Lake Oil 1.
Wells Drilling
Anderson County—
Greenwood, Navarro Oil 1.
Cherokee County—
Clapp, Collington et al 3.
Ellis County—
Griffiths, Simms Oil 1.
Falls County—
Keely, Heflin et al 1*.
Peacock, High Banks Oil 1*.
Freestone County—
Pickens, Kechi Pet. 1*.
Henderson County—
Sterrett, Ferd. Heine 1*.
Bounds, F. Haynes 2*.
Martin, Evans et al 1*.
Dansby, Evans Drilling No. 1*.
Hill County—
Jones, Eagle Drilling Co. 1*.
Hopkins County—
Brooks, Kelsey et al 1*.
Hunt County—
Barnett, Tullal & Kelsey 1*.
Hicks, Gulf Prod. Co. 1.
Kaufman County—
Williamson, J. D. Harper 1*.
Limestone County—
Richardson, Wells et al 1*.
Bond, Pure Oil 25*.
Lindieu, Pure Oil 3.
Desenberg, Magnolia Pet. 3.
Rose, Transcontinental Oil 1.
Ellis, J. K. Hughes 18.
Curry, Patty Kosse 1*.
Head, Morley & Morley 1*.
Milam County—
Brown, Allen Harper 1*.
Navarro County—
Fullwood, Dr. Johnson et al 1*.
McClelland, McDonald Bros. 2*.
Longbotham, Snowden & McSweeney 13*.
Rigs, 5; wells drilling, 27; total, 32.

SOUTHWEST TEXAS

Summary of Field Operations

Dist.	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Luling	1	100	0	0	0	5	5
Laredo	17	6,200	3	8	6	17	23
Somerset	2	18	0	0	0	2	2
Calliham	3	0	1	2	0	2	2
Rockdale-Minerva	12	89	1	2	3	8	11
Jim Hogg County	8	360	2	2	4	11	15
Lockhart	3	650	0	0	3	6	9
Miscellaneous	6	725	0	2	8	21	29
Total Mar.	52	8,142	7	16	24	72	96
Total Feb.	45	11,851	11	6	14	56	70
Difference	7	3,709	4	10	10	16	26

LULING

Mercer, United North & South Oil 6 100

Well completed 1
Production 100

LAREDO

——, Lucas-Kirkpatrick 2 ..... gas
Aviator, Puig, Edington Co. 2 500
Cole Pool, Killiam & Seacord 1 ..... gas
——, Johnson & Detray 2 ..... gas
Cole Pool, O. W. Killiam 1 ..... gas
Las Albercas, Leal & Lange 1 75
Las Albercas, Sun Co. 1 ..... gas
Webster, Associated Oil 2 ..... gas
Bruni Pool, Cole Pet. 10 ..... sw
Bruni, G. M. Ball 2 50
Bruni, Crown Central Oil 3 75
Killiam, Laredo Oil 10 ..... sw
LeGarza, Roark et al 1 ..... dry
Cole Pool, Houston-Gulf Gas 1 ..... gas
Cole Pool, Cole Pet. 11 5000
Cole Pool, Killiam & Seacord 2 ..... gas
Cole Pool, Houston Oil 1 .....500 and gas

Wells completed 17
Production 6200
Gas 8
Dry and salt water 3

SOMERSET

Hartung, Grayburg Oil 20 8
Weimer, Helvetia Oil 14 10

Wells completed 2
Production 18

CALLIHAM

Tips, Glasco Bros. 2 ..... gas

Tips, Glasco Bros. 3 ..... gas
Odem, W. J. Walton 1 ..... abd

Wells completed 3
Gas 2
Abandoned 1

ROCKDALE-MINERVA

Gaither, Rockdale Dev. 6 6
Sterlsky, Union Pet. 1 16
Sterlsky, Roy Long 1 6
Phillips, Kent & Middleton 2 18
Coulter, Clear Lake Oil 4 5
Roark, Kent & Middleton 1 10
Walker, Groneman Bros. 2 8
Banzell, Jones et al 1 ..... abd
Phillips, W. A. Jones 1 ..... gas
Phillips, W. A. Jones 2 .....5 and gas
Hamilton, Rockdale Junior Oil 2..... 5
Branch, Jennings Pet. 12 10

Wells completed 12
Production 89
Gas 2
Abandoned 1

JIM HOGG COUNTY

Holbein, Kisselman & Stalbans 1..... 60
——, Johnson & DeTray 1 80
Holbein, O. W. Killiam 1 ..... sw
Holbein, Kisselman & Stalbans 3 ..... gas
Holbein, O. W. Killiam 4 300
Holbein, Kisselman & Stalbans 2 ..... abd
Holbein, O. W. Killia 4-B 20
Martinez, O. W. Killiam 6 ..... gas

Wells completed 8
Production 360
Gas 2
Abandoned and salt water 2

LOCKHART

Cardwell, Lucas Oil & Ref. 1 500
Brewer, Witherspoon Oil 10 100
Cardwell, Glasscock Bros. 3 50

Wells completed 3
Production 650

MISCELLANEOUS

Medina County—
Schuler, Golden West Co. 3 250
Schuler, Golden West Co. 4 150
Wilson, Eastham & Tarver 2 125
Adams, Henderson et al 1 ..... gas
Taylor, Medina Oil 2 200
Live Oak County—
Cartwright, Houston Oil 13 ..... gas

Wells completed 6
Production 725
Gas 2

RIGS AND WELLS DRILLING
LULING

Tabor, United North & South Oil 3.
Baker, United North & South Oil 31.
Allen, United North & South Oil 36, 38.
Kelly, United North & South Oil 1.
Wells drilling, 5.

LAREDO
Rigs

Cole, Block 3, Keeling et al 1.
Cole, Benevardis, Cole Pet. 18, 19.
Cole, Arispe, Cole Pet. 14.
Cole, Benavidas, Moody-Seagraves 3, 4.
Wells Drilling
Cole Pet., Benavidas, Cin-Tex Oil 3.
Cole Pet., Bennett, Simms Oil 1.
Cole Pet., Block 9, O. W. Killiam 1.
Cole Pet., Block 15, Sun Co. 1.
Cole Pet., Benevidas, Houston Oil 1, 2.
Cole Pet., Benevadis, Houston-Gulf Gas 2.
Cole Pet., Benevadis, Cole Pet. 17.
Cole Pet., Block 5, Cole Pet. 1, deepening.
Aviator Pool, Star, Crown Central Pet. 1.
Aviator Pool, Puig, J. K. Davis 1.
Rigs, 6; wells drilling, 11; total, 17.

SOMERSET
Wells Drilling

Underwood, Milhap Oil 2.
Smith, Helveatia Oil 4.
Wells drilling, 2.

CALLIHAM
Wells Drilling

West, Geo. Pickett 2.
Tips, Glasco et al 4.
Odem, W. J. Walton 2.
Wells drilling, 3.

ROCKDALE-MINERVA

Sterlsky, Kent-Middleton Ref. 5.
Coulter, Bartlett Prod. 2, 3.
Wells Drilling
Sanford, J. E. Lee No. 1.
Urban, Coffee & Hale 1.
Sterlsky, Roy Long 1-A.
Coulter, Bartlett Prod. 1.
Hamilton, Rockdale Junior Oil 3.
Sterlsky, Union Prod. 2.
Bluebonnett, Roundtree et al 14.
Citizens, W. S. Gutherie 1.
Rigs, 3; wells drilling, 8; total, 11.

JIM HOGG COUNTY
Rigs

Holebin, Kisselman & Stalbans 28, 29.
Weber, Kisselman & Stalbans 1.
Holbein, Kisselman & Stalbans 5.
Wells Drilling
Palacios, Bailey et al 1.
Holbein, Hill & Millbrook 1 sd.
Palacios, Simms Oil 1.
Thompson, Simms Oil. 1
Allen, Rydal-Rycade Pet. 1.
Vela, Rydal-Rycade 2.
Vela, Beauchamp et al 1.
Bank Magnolia Pet. 3.
Martinez, Magnolia Pet. 11.
Holbein, Kisselman & Stalbans 4, 27.
Rigs, 4; wells drilling, 11; total, 15.

LOCKHART
Rigs

Meiers, Reiter-Foster Corp. 1.
Cardwell, Sun Oil 1.
Gomillion, Reiter-Foster Corp. 1.
Wells Drilling
Burdette, Murchisen & Fain 1.
Brown, Reiter-Foster Corp. 1.
Jolly, J. B. Ashe 1.
J. M. Cardwell, Gulf Prod. 1.
Burdette, E. L. Smith Co. 1.
Ridout, Van Kueron Oil 1.
Rigs, 3; wells drilling, 6; total, 9.

GULF COAST

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boling	10	1,916	5	3	9	23	32
Batson	9	157	2	0	1	2	3
Barber Hill	0	0	0	0	1	0	1
Blue Ridge	1	0	1	0	0	2	2
Big Creek	2	600	1	0	1	2	3
Dayton	1	0	1	0	1	0	1
Damon Mound	0	0	0	0	1	0	1
Edgerly (La.)	1	0	1	0	1	2	3
Goose Creek	4	225	2	0	2	12	14
Humble	2	200	1	0	0	7	7
Hull	13	10,350	2	0	6	14	20
High Island	4	350	3	0	1	2	3
Jennings (La.)	4	115	0	0	0	4	4
Lockport (La.)	3	4,600	0	0	0	6	6
Markham	0	0	0	0	0	1	1
Nash	2	0	2	0	2	3	5
Orange	14	7,100	7	0	4	17	21
Pierce Jct.	3	400	1	0	1	2	3
Piedras Pintas	0	0	0	0	0	4	4
Spindletop	4	230	1	0	1	3	4
Saratoga	0	0	0	0	0	4	4
Sour Lake	3	145	3	0	4	4	8
South Liberty	0	0	0	0	2	0	2
Vinton (La.)	7	650	2	0	0	2	2
Miscellaneous	4	0	4	0	11	29	40
Total Mar.	96	27,047	39	3	49	145	194
Total Feb.	72	23,150	26	0	35	148	183
Difference	24	3,897	13	0	14	3	11

WELLS COMPLETED
BOLING

Taylor, Sun Oil Co. 1 100
Fain, Oxford Oil 1 ..... abd
Taylor, Sinclair Oil & Gas 1 1000
Chase, Gulf Prod. 1 ..... abd
Fain, Murchison & Fain 1 ..... sw
Taylor, The Texas Company 6 760
Hawes, Humble Oil & Refg. Co. 1..... 65
Taylor, Sun Co. 2 ..... gas
Floyd, Murchison & Fain 2 ..... abd
Bey, Neiss et al 1 ..... abd

Wells completed 10
Production 1915
Gas 3
Abandoned 5

BATSON

Milhome, S. R. Buchahan, 86 20
Bradley, Ada Belle Oil 108 5
Autry, Navarro Oil 1 ..... abd
Paraffine, Acorn Oil 60 10
Paraffine, Paraffine Oil 65 10
Wing, Gulf Prod. 165 10
Hooks, Sterling Oil 3 ..... dry
Hodges, Kirby Pet.-Capitol Oil 4..... 90
State land, East Batson Oil 12 12

Wells completed 9
Production 157
Abandoned 2

BIG CREEK

Davis, Gulf Prod. 26 600
Davis, Gulf Prod. 20 (wo) ..... abd

Wells completed 2
Production 600
Abandoned 1

BLUE RIDGE

West-Schenck, West-Schenck 1 ..... abd

Wells completed 1
Abandoned 1

DAYTON

Schlender, Harrison Oil 1 ..... abd

Wells completed 1
Abandoned 1

EDGERLY

Hunter, Edgerly Pet. 1 ..... sw

Wells completed 1
Salt water 1

GOOSE CREEK

Smith, Humble Oil & Refg. Co. 66..... 75
State land, Gulf Prod. 23 150
Wright, Gulf Prod. 12-A ..... dry
Galliard, Gulf Coast 6 (wo) ..... abd

Wells completed 4
Production 225
Dry and abandoned 2

HUMBLE

Weed, Brane Oil 1 ..... dry
Hancock, Cardinal Oil 1 200

Wells completed 2
Production 200
Dry 1

HULL

Baldwin, Gulf Prod. 11 175
Stengler, Yount-Lee Oil 9 ..... sw
Morris-Phillips, Gulf Prod. 21 ..... abd
Dolbear, Republic Prod.-Houston Oil 66.1000
Dolbear, Republic Prod.-Houston O. 118.1000
Hooks-Spells, Humble O. & R. 1 300
Guedry, Humble Oil & Refg. 1 400
Phoenix, Gulf Prod. 64 200
Phoenix, Gulf Prod. 13 100
Scarborough, Gulf Prod. 12 1800
Phoenix, Gulf Prod. 64 125
Abel, Humble Oil & Refg. 6-A 250
Dolbear, Republic Prod.-Houston Oil 121 5000

Wells completed 13
Production 10,350
Abandoned and salt water..... 2

HIGH ISLAND

Cade, Sun Co. 6-C 350
Carter, Transbay Oil 14 ..... abd
Smith, Gulf Prod. 1-A ..... abd
Carter, Transbay Oil 15 ..... abd

Wells completed 4
Production 350
Abandoned 3

JENNINGS

S. F. S., Jennings Pet. 1 60
Martin, R. M. Hines 2 30
Zigler, Myers et al 1-C 10
J. C., Gulf Refining 38 15

Wells completed 4
Production 115

LOCKPORT

Friedburg & Wolf, Vacuum-Gulf Co. 2 800
Bordages, Vacuum-Gulf Co. 2 500
Miller, Vacuum-Gulf 6 3300

Wells completed 3
Production 4600

NASH

Meier, Rycade Pet. 4 ..... abd
Wisdom, Rycade Pet. 4 ..... abd

Wells completed 2
Abandoned 2

ORANGE

Kishi-Lang, Gulf Prod. 2-B 1650
Leon, Gulf Coast Oil 1 (wo) ..... abd
Corem, Sun Co. 1 ..... abd
Chesson, Humble Oil & Refg. 26 ..... abd
McGuire, Kishi Dev. 7 ..... sw
Cow Bayou, Rycade Pet. 1-C ..... gas
Cow Bayou, Rycade Pet. 11-B 2500
Kishi-Lang, Gulf Prod. 8-B 1600
Chesson, Humble Oil & Refg. 25-A ..... sw
Chesson, Texhoma Oil 7 200
Myers, Humble Oil & Refg. 5 150
McLean, Brownie Babbittee Oil 4 1000
Mecom, Peer Oil 1 ..... abd
Williams, Orange Pet. 1 ..... sw

Wells completed 14
Production 7100
Abandoned and salt water 7
Gas 1

PIERCE JUNCTION

Taylor, Gulf Prod. 18 ..... gas
Howe, H. R. Cullen, 7 100
Settegast, Rio Bravo Oil 2-P 300

Wells completed 3
Production 400
Gas 1

SPINDLETOP

Ft. Worth. Wilson & Broach 13 5
Gladys, Gulf Prod. 212 125
Gladys, Yount-Lee Oil 2 ..... abd
Gladys, Gulf Prod. 221 100

Wells completed 4
Production 230
Abandoned 1

SOUR LAKE

Bashara, McNamara Oil 14 ..... sw
Cummings, Pevero Oil 3 5
Myers, Humble Oil & Refg. 1 ..... abd
Fee, Minor Oil 75 10
Fee, The Texas Company 263 30
Hardin, Lakeview Oil 46 100
Carpenter, J. S. Jackson 14 5
Myers, Humble Oil & Refg. 2 ..... abd

Wells completed 8
Production 145
Abandoned and salt water 1

VINTON

Rescue, Vinton Pet. 17 60
Gray, Vinton Pet. 54 75
Gray, Gulf Refining 3 300
Vincent, Edgerly Pet. 6 75
G. N. G., Gulf Refining 65 ..... dry
Vincent, Atkins et al 3 150

Wells completed 7
Production 660
Dry and salt water 2

WEST COLUMBIA

Smith, Humble Oil & Refg. 2 10
LeRubus, Humble Oil & Refg. 2 ..... sw

Wells completed 2
Production 10
Salt water 1

MISCELLANEOUS

Grimes County—
Dodds, Rassmussen et al 2 ..... abd
Harris County—
Harrell, Brane Oil 1 ..... abd
Shelby County—
Anderson, Roy Anderson 1 ..... dry
Jefferson County—
Big Hill, Sun-Davis, Houston Oil 4.... abd

Wells completed 4
Abandoned 4

BOLING
Rigs

Hooper, Vacuum Oil 2.
Taylor, Sun Co. 6, 7, 8, 9, 10.
Taylor, Sinclair O. & G. 6.
Floyd, Murchison & Fain 2.
Mullins, R. E. Brooks, Jr. 1.
Wells Drilling
Hooper, Vacuum Oil 1.
Hawes, Humble Oil & Refg. 2, 3, 4, 5, 6, 7.
Floyd, The Texas Company 1.
Taylor, The Texas Co. 5, 7, 8.
Taylor, Atlantic O. P. 2, 3, 4.
Taylor, Sinclair O. & G. 1, 2, 3, 4, 5.
Mullins, J. K. Hughes Dev. 1.
Rigs, 9; wells drilling, 23; total, 32.

BATSON
Rigs

Wing, Gulf Prod. 166.
Wells Drilling
Hooks, Sterling Oil 3 sd.
Bradley, Ada Belle Oil 109.
Rigs, 1; wells drilling, 2; total, 3.

BARBER HILL
Rigs

Kirby, Mills Bennett 1.

BLUE RIDGE
Wells Drilling

Robinson, The Texas Company 10.
Luscher, Gulf Prod. 6.
Rigs, 0; wells drilling, 2; total, 2.

BIG CREEK
Rigs

Davis, Gulf Prod. 29.
Wells Drilling
Davis, Gulf Prod. 28.
Wheat, Gulf Prod. 10.
Rigs, 1; wells drilling, 2; total, 3.

DAYTON
Rigs

Schlender, Harrison Oil 2.
Rigs, 1; wells drilling, 0; total, 1.

DAMON MOUND
Rigs

Bryan, Hamm & Co. 4.
Rigs, 1; wells drilling, 0; total, 1.

EDGERLY
Rigs

Moore, Green Oil 7.
Wells Drilling
Hunter, Edgerly Pet. 1 sd.
Bright-Penn, Gulf Refg. Co. 24.
Rigs, 1; wells drilling, 3; total, 3.

GOOSE CREEK
Rigs

State land, Gulf Prod. 8.
Galliard, Gulf Coast 24.
Wells Drilling
Peninsula, Humble Oil & Refg. 23.

Smith, Humble Oil & Refg. 67, 68, 69 (wo.)
Bryan, Powell Oil 6.
Scorrges, M. & B. Oil 4.
Bartlett-Smith, Sun Co. 18.
Chapman-Bryan, Gulf Prod. 11.
Hirsch, Gulf Prod. 5.
Beaumont, Gulf Prod. 21 dd.
Galliard fee, Gulf Prod. 12 dd.
Wright, Gulf Prod. 5 dd.
Rigs, 2; wells drilling, 12; total, 14.

HUMBLE
Wells Drilling
Williams, Martin & Drake 1.
Hirsch, F. M. Long, 2 sd.
Bailey, Hamm & Co. 1.
Mason, A. L. Fondren, 2 sd.
Invincible, J. D. Clay 10.
Lunman, R. L. Blaffer 31.
Weed, Sutherland Oil 2.
Rigs, 0; wells drilling, 7; total, 7.

HULL
Rigs
Dolbear, Republic Prod.-Houston Oil 120.
Merchant, Humble Oil & Refg. 5.
Abel, Humble Oil & Refg. 4.
Hannah, Texas-Vacuum Oil 2.
Morris-Phillips, Gulf Prod. 28.
Scarborough, Gulf Prod. 17.
Wells Drilling
Dolbear, Republic Prod.-Houston Oil 51, 119, 122.
Guedry, Humble Oil & Refg. 2.
Taylor, Mecom Oil 8.
Hannah, The Texas Company 1.
Merchant, The Texas Company 10.
Barngrover, Empire Gas & Fuel 18.
Stelgler, Yount-Lee Oil 9.
Baldwin, Gulf Prod. 16.
Thomas, Gulf Prod. 6.
Phoenix, Gulf Prod. 15, (wo) 65, 66.
Rigs, 6; wells drilling, 14; total, 20.

HIGH ISLAND
Rigs
Cade, Sun Co. 7, 10.
Wells Drilling
Cade, Sun Co. 8.
Smith, Gulf Prod. 4, 5.
Rigs, 1; wells drilling, 2; total, 3.

JENNINGS
Wells Drilling
Latrielle, The Texas Company 1-C.
Fee, Coastal Fuel Oil 91.
S. F. S., Jennings Pet. 2.
S. F. S., Port City Oil 5.
Rigs, 0; wells drilling, 4; total, 4.

MARKHAM
Wells Drilling
Kountz, Rycade Pet. 1.
Rigs, 0; wells drilling, 1; total, 1.

LOCKPORT
Wells Drilling
Friedberg & Wolf, Vacuum-Gulf Oil 1 (dpg)
Farquhar, Vacuum-Gulf 3.
Miller, Vacuum-Gulf 5, 7, 8, 9.
Rigs, 0; wells drilling, 6; total, 6.

NASH
Rigs
Wisdom, Rycade Pet. 2.
Flessner, Rycade Pet. 3.
Wells Drilling
Nash, Rycade Pet. 6, 7.
Flessner, Rycade Pet. 2.
Rigs, 2; wells drilling, 3; total, 5.

ORANGE
Rigs
Cow Bayou, Rycade Pet. 5.
Belleisle, Sun Co. 1 (dpng.)
Kishi-Lang, Gulf Prod. 9-B.
McLean, Brownie Babbittee 5 (wo)
Wells Drilling
Carbello, Edgerly Pet. 3.
Chesson, Humble Oil & Refg. 25-A.
Myers, Humble Oil & Refg. 5.
McGuire, Kishi Dev. 7.
Chesson, Kishi Dev. 7.
Chesson, Orange Pet. 11.
Cow Bayou, Rycade Pet. 6-B, 11-B, 2.
Jackson, Supreme Oil 4.
Chesson, Texhoma Oil 4, 7, 10, 14.
Hager Lee, Gulf Prod. 21, 22.
Chesson, Gulf Prod. 3-A.
Hager, Gulf Prod. 3.
Rigs, 4; wells drilling, 17; total, 21.

PIERCE JUNCTION
Rigs
Settegast, Rio Bravo Oil 3 P.
Wells Drilling
Caln, Navarro Oil, 2, dpng.
Taylor, Gulf Prod. 9, dpng.
Rigs, 1; wells drilling, 2; total, 3.

PIEDRAS PINTAS
Wells Drilling
Walsh, Humble Oil & Refg. 4.
Walsh, Houston-Gulf Gas 1.
Wood, Grayburg Oil 1.
———, Magnolia Pet. 1.
Rigs, 0; wells drilling, 4; total, 4.

SPINDLETOP
Rigs
Gladys, Gulf Prod. 223.
Wells Drilling
Terrell Lillian Oil 3.
Gladys, Yount-Lee Oil 2.
McFadden, Gulf Prod. 4.
Rigs, 1; wells drilling, 3; total, 4.

SARATOGA
Wells Drilling
Teel, Vacuum Oil 3.
Fountain, Rio Bravo Oil 5.
Hooks, San Berenrd Oil 19.
Pope-Ellis, Fountain Prod. 1.
Rigs, 0; wells drilling, 4; total, 4.

SOUR LAKE
Rigs
Fee, The Texas Company 230.
Griffith, Humphrey Corp. 2, 3.
Myers, Humble Oil & Refg. 3.
Wells Drilling
Griffith, Humphrey Corp. 1.
Hardin, Lake View Oil 47.
Gilbert, Yount-Lee Oil 3.
Fee, Minor Oil 76.
Rigs, 4; wells drilling, 4; total, 8.

SOUTH LIBERTY
Rigs
Welder, Humble Oil & Refg. 2.
Duessen, Humble Oil & Refg. 1-B.
Rigs, 2; wells drilling, 0; total, 2.

VINTON
Rigs
Parks, Wilson & Broach 11.
Wells Drilling
F. H. Gray, Gulf Refg. 1-A.
Star, Gulf Refg. 37.
Gray, Marrs McLean 10.
Vincent, Edgerly Pet. 3.
Rescue, Vinton Pet. 18.
Gray, Vinton Pet. 55.
Vincent, Vinton Pet. 7.
Moore, Vinton Synd. 1.
Gray, The Texas Company 1-A, 1-C, 15.
Rigs, 1; wells drilling, 11; total, 12.

WEST COLUMBIA
Arnold, The Texas Company 22.
Masterson, Hyde Prod. 1.
Rigs, 0; wells drilling, 2; total, 2.

BRAZORIA COUNTY
Rig
Bryan Hths, Hamm & Co. 2.
Wells Drilling
Allen, Roxana Pet. Corp. 2.
Kropp, Roxana Pet. Corp. 1.
Clements, Roxana Pet. Corp. 1.

CHAMBERS COUNTY
Wells Drilling
Drouth, W. C. Moore 1.
Wallisville Road, Young et al 1.
Lawrence, C. T. Rucker, 1, 2 sd.

FORT BEND COUNTY
Wells Drilling
Davis, Long Point, Gulf Prod. 8, 10.
Frederick, Neilan, Inc., 2 sd.
———, Harry Pennington 1 sd.

HARRIS COUNTY
Rigs
Peggy Lake, Armstrong & Mitchell 2.
Spring Road, Brane Oil 1.
Wells Drilling
Hockley, Warren ranch, The Texas Company 6, 7.

HARDIN COUNTY
Well Drilling
Hardin, Texas Little Farms Co. 1 sd.

JEFFERSON COUNTY
Wells Drilling
Fannette, Burrell, Gulf Prod. 2.
Fannette, Bordages, Gulf Prod. 1.
Big Hill, Sun-Dyson, Houston Oil 4.

JACKSON COUNTY
Well Drilling
Drushell, Drushell et al 2.

GRIMES COUNTY
Rig
Near Singleton, local parties 1.
Well Drilling
Near Piedmont, Briant & Huber 1.

KLEBERG COUNTY
Well Drilling
Southwest of Kingsville, Humble Oil & Refining 5.

LIBERTY COUNTY
Rigs
South of Raywood, Humphreys Corp. 1.
Mitchell, Premium Oil 1.
Wells Drilling
South of Devers, Gulf Prod. 1, 2.

MATAGORDA COUNTY
Rig
Hawkins Dome, Sanborn, Gulf Prod. 1.
Wells Drilling
Craig, Hawkins Dome, Gulf Prod. 4.
Hawkins, Shepherd Mound Oil 2.

NEWTON COUNTY
Wells Drilling
Sabine Tram, Huble Oil & Refg. 1.

ORANGE COUNTY
Rig
Benner, Gulf Prod. 2.
Wells Drilling
Gum Island, Orange Prod. 2.
Deweyville, Humble Oil & Ref. 2.

REFUGIO COUNTY
Rigs
Rooke, Houston Oil 5.
Heard, Houston Gulf Gas 5, 5-A.
Well Drilling
O'Connor ranch, Houston Oil 1.

STARR COUNTY
Wells Drilling
Kelsey, Dauchy & Bryant 1.
Guerra, O. W. Killiam 1 sd.

NEUCES COUNTY
Wells Drilling
Allen, H. H. Grivans 1.
———, The Texas Company 1.

VICTORIA COUNTY
Wells Drilling
O'Connor ranch, Houston Oil 1.

WALLER COUNTY
Rig
Pattison, George Newman 2.
Well Drilling
Near Waller, H. L. Maxwell 1.

WASHINGTON COUNTY
Rig
West of Brenham, Pruitt et al 1.
Wells Drilling
Near Burton, Stengler et al 1 sd.
Southwest Brenham, Fitzsimmons et al 3.

SHELBY COUNTY
Rig
Northwest of Center, Fort Worth parties.
Wells Drilling
Shelbyville, Roy Anderson 1.
———, Crusader Oil 1 sd.

WHARTON COUNTY
Rigs
Glenn Flora, South Belle et al 1.
Dennis, Humphrey Corp. 1.
Wells Drilling
Borden, Gulf Prod. 1.
Dennis, J. W. Rich 2.
Brown, J. W. Rich 1.
Woodbine, Houston-Gulf Gas 1.

SOUTH LOUISIANA
Calcasieu Parish—
Rigs
McCoy, Union Sulphur Co. 2.
Stark Dome, Gulf Ref. Co. 3.
Wells Drilling
Stark Dome. Standard Oil of La. 2 sd.
Naval, Union Sulphur 1.
Cameron Parish—
Rig
Sweet Lake, Pure Oil 3.
Wells Drilling
Hackberry, Yount-Lee Oil 2, 3.
Iberia Parish—
Wells Drilling
Jefferson Island, Salt Mine, Union Oil & Gas 1.
Jeff Davis Parish—
Rigs
Kratzer, Osage Oil 1.
Well Drilling
Ervine, Yount-Lee Oil 11.
La Fourche Parish—
Rigs
Price, E. F. Simms 1.
St. Mary Parish—
Wells Drilling
Premier, Union Sulphur 10.
Glenwild, Rio Bravo Oil 1.
St. Martin Parish—
Wells Drilling
Atchafalaya, Rycade Pet. 1.
Atchafalaya, Gulf Ref. of La. 3.
Rigs, 21; wells drilling, 49; total, 70.

N. LOUISIANA-ARKANSAS

ARKANSAS
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl
Union	48	4,022	11	4	19	58	77
Ouachita	18	1,450	3	4	1	23	24
Nevada	4	550	2	0	1	8	9
Columbia	2	25	1	0	0	4	4
Ark. wildcats	5	0	5	0	1	7	8
Total Mar.	77	6,047	22	8	22	100	122
Total Feb.	72	6,741	22	8	42	119	161
Difference	5	694	00	0	20	19	39

NORTH LOUISIANA
Summary of Field Operations

Parish—	Comp.	Pro.	Dry	Gas	Rigs	Drg.	Ttl.
Bossier	4	25	2	0	1	5	6
Caddo	16	409	2	2	0	31	31
LaSalle	58	6,925	9	0	13	32	45
Ouachita	3	0	1	2	0	4	4
Webster	3	225	1	1	0	8	8
DeSoto	0	0	0	0	0	4	4
Moorehouse	0	0	0	0	0	2	2
Sabine	0	0	0	0	0	2	2
Winn	0	0	0	0	1	3	4
La. wildcats	6	0	5	1	1	8	9
Total Mar.	90	7,594	19	6	16	99	115
Total Feb.	50	5,107	16	6	53	134	187
Difference	40	1,487	3	0	37	35	72

UNION COUNTY COMPLETIONS
ARKANSAS

8-17-14 Moody, Clement Oil Co., 4 .... dry
36-17-16 Springer, Howell & Knowles, 1 dry
17-16-15 Sanford, W. R. Keever, 4 600
32-16-16 Parks, Owens et al, 1 ..... dry
8-16-15 Bilyew, Pure Oil Co., 1 ..... dry
8-17-14 Brown, Russell, et al 1 ..... dry
6-16-15 Holloway, Smitherman & McDonald 1 50
8-16-15 Alphin, Texas Co. 9 25
9-17-16 Slaughter, Wingfield et al 1.. 480
6-16-15 Fergerson, Arkansas Fuel Co. 8 40
6-16-15 Fee, J. S. Lyell 1 100
9-17-16 Slaughter, Marine Oil Co. 1 ... 700
10-16-15 Lawton, Mazda Oil Corp. 4-H gas
6-16-15 Merriwether, Pure Oil Co. 8.. gas
9-17-16 Dumas, Rovenger Oil Corp. 4 75
16-17-16 Goodwin, Rovenger Oil Corp. 1 125
9-16-15 Flenniken, Sunny Jim Oil Co. 1 dry
8-16-15 Graves, The Texas Company 11 50
4-16-15 Calloway, Amerada Pet. Corp. 5 330
34-15-16 Turnage, Arkansas Drilling Co. 2 ..... dry
6-16-15 James, Crawford & Sebastian, 10 ..... dry
1-16-16 Primm, Gulf Refg. Co. 5 ..... dry
16-17-16 Andress, E. M. Jones 1 175
17-16-15 Sanford, W. R. Keever 3 75
1-16-17 Werner Co. Magnolia Pet. Co. 1 35
22-19-15 Meeks, Richardson et al 1.... dry
15-17-16 Harrell, Rovenger Oil Corp. 1 15
8-16-15 Murphy, Broderick & Calvert 2-C 115
7-16-15 Tatum, Sam Cook, 7 ..... gas
15-16-15 Murphy, Estes et al, 1 100
10-16-15 Lawton, Federal Pet. Co. 7-B 100
4-16-16 McElroy, Gulf Refg. Co. 1.... 10
1-16-16 McMullen, Gulf Refining Co. 2 165
15-16-15 Giller, Humble Oil & Refg Co. 5 86
8-16-15 Williams, Kinnebrew et al 1.. 15
7-16-15 Tatum, Laurel Oil & Gas Co. 5 40
8-16-15 Murphy, Lion Oil & Refg. Co. 9-C 30
17-16-15 Wilson, Lion Oil & Refg. Co. 3 100
17-16-15 Burns, Little Fay Oil Co. 3... 40
7-16-15 Hatfield, Magnolia Pet. Co. 4.. 105
17-16-15 Vestal, Murdock et al 8 50
9-17-16 Slaughter, Olvey & Jones 1.... 200
16-17-16 Goodwin, Rovenger Oil Corp. 2 136
16-17-16 Goodwin, Rovenger Oil Corp. 1-B 20
9-17-16 Dumas, Simms Oil Co. 2-A..... 60
5-16-15 Saxon, Smitherman & McDonald 2-B ..... gas
17-16-15 Flenniken, Thurman et al 1.. dry
3-16-15 Roper, Unity Petroleum Co. 7.. 35

Completion	48
Oil wells	33
Production	4022
Gas wells	4
Production	90,000,000
Dry	11

OUACHITA COUNTY

33-15-15 R. Bennett, Fulf Refg. Co. 9.. 90
5-16-15 Hinton, Houston Oil Co. 7 .... gas
32-15-15 Laney, Humble Oil & Refg. Co. 5 400
35-15-17 Clawson, Magnolia Pet. Co. 2 dry
34-15-15 Snyder, Owenwood Oil Corp .11 250
33-15-15 Berry, The Texas Company 10 dry
33-15-15 Berry, Unity Pet. Co. 4..... dry
32-15-15 Laney, Humble Oil & Refg. Co. 8 280
34-15-15 Snyder, Marine Oil Co. 12 100
36-15-17 Lagrone, A. Meek, trustee, 2.. 20
27-15-16 Cramer, Ohio Oil Co. 18 20
24-15-15 Johnson, Phillips Petroleum Co. 8 50
4-16-15 Fee, Sid Umsted 3 ..... gas
31-15-15 Laney, Humble Oil & Refg. Co. 4 50
30-15-16 Shirey Fee, Magnolia Pet. Co. 2 75
5-16-15 Hill, Natural Gas & Fuel Co. 5-A ..... gas
28-15-15 Berg, Roxana Pet. Corp. 4-A 115
22-15-19 Morgan, Buffalo Oil Co. 4..... gas

Completions	18
Oil Wells	11
Production	1450
Gas wells	4
Production	85,000,000
Dry	3

COLUMBIA COUNTY

36-15-20 Rhinehart, Magnolia Pet. Co. 7 25
14-18-21 Davis, Phillips et al 1..... dry

Wells completed	2
Production	25
Dry	1

NEVADA COUNTY

2-14-21 J. D. Ellis, Bemis et al, 2.... 300
2-14-21 C. W. Waters, Smitherman & McDonald 2 250
10-15-22 Calloway, Humble Oil & Refg. Co. 1 ..... dry
10-14-21 McKinney, Zing et al 1..... dry

Wells completed	4
Production	550
Dry	2

Arkansas Wildcats

Miller County—
5-17-25 Cranks, Humble Oil & Refg. Co. 1 ..... dry
33-17-27 Big River, Humble Oil & Refg. Co. 1 ..... dry

Hempstead County—
29-12-23 Toner, C. W. Robinson 1..... dry

Lafayette County—
18-19-24 Big River, Arkansas Fuel Oil Co. 2 ..... dry
3-20-24 Red River, Kensaw Pet. Co. 2 dry

Wells completed	5
Production	0
Dry	5

DRILLING OPERATIONS
UNION COUNTY ARKANSAS

Wells Drilling
17-18-15 Fitzgeral, C. H. Allison 1-A.
16-17-16 Andress, Atlantic Oil Producing Co. 2.
10-16-15 Lawton, Bailey & Trimble 3.
12-16-16 Houston, Barbare et al 1.
8-16-15 Murphy, Broderick & Calvert 5-B.
8-16-15 Murphy, Broderick & Calvert 6-B.
4-16-16 Saxon, Clark & Melat 1.
10-17-16 Dumas, Coate & Sowell 1.
7-16-15 Tatum, Sam Cook, 7.
15-16-15 Murphy, Eason et al 7.
9-16-15 Palmer, Eason et al 3.
23-17-16 Ennis, El Dorado Union Oil Co. 1.
15-16-15 Murphy, Estes et al 2.
15-16-15 Wells, Federal Petroleum Co. 2-B.
7-16-16 Howard, Fergerson et al 2.
7-16-16 Fagg, Gulf Refg. Co. 2.
1-16-16 McMullen, Gulf Refg. Co. 3.
6-18-14 Lovett, Grimes & Jones 1.
21-16-15 Hays, Hickman et al 4.
7-16-15 Lawton, Humble Oil & Refg. Co. 2-B.
28-16-16 Swilley, H. L. Hunt, 1.
6-16-15 McClanahan, Imperial Oil & Gas Prod. Co. 12.
34-19-11 Townes, Jampeter et al 1.
3-16-15 Williams, Kennebrew et al 7.
7-16-15 Hodges, Louisiana Oil Refg Corp. 4
16-17-16 Goodwin, Lion Oil & Refg. Co. 1.
16-17-16 Goodwin, Lion Oil & Refg. Co. 2.
17-16-15 LeCroy, Magnolia Prod. Co. 3.
8-16-16 Hessler, Magnolia Prod. Co. 3.
9-17-16 Slaughter, Marine Oil Co. 2.
9-17-16 Slaughter, Marine Oil Co. 4.
10-16-15 Lawton, Mazda Oil Corp. 3-H.
11-17-16 Haney, McGaha et al 1.
35-17-16 Miller, Miles, trustee 1.
5-16-15 Flenniken, Moco Oil Corp. 6.
2-19-18 Edwards, Moorefield et al 1.
17-16-15 Vestal, Murdock et al 2.
16-17-16 Andress, Natural Gas & Fuel Co. 1.
16-17-16 Andress, Natural Gas & Fuel Co. 2.
10-17-16 Dumas, Oil Fields Corp. 1.
4-17-16 Porter, Owens et al 1.
8-16-15 Bilyew, Pure Oil Co. 6.
9-17-16 Dumas, Pure Oil Co. 1.
15-17-16 Dumas, J. D. Reynolds 3.
15-17-16 Mooty, Reynolds & Marr 1.
10-16-15 Lawton, Sam Richardson 5.
9-17-16 Dumas, Simms Oil Co. 3-A.
9-17-16 Dumas, Simms Oil Co. 4-A.
1-16-16 McClanahan, Sun Oil Co. 2.
9-16-15 Flenniken, Sunny Jim Oil Co. 7.
11-17-16 Burns, Thurman et al 1.
12-16-16 Houston, Thurman et al 2.
8-16-15 Bilyew, Unity Pet. Co. 8-A.
10-16-15 Lawton, Unity Pet. Co. 2.
9-17-16 Dumas, Wingfield et al 2.
27-17-16 Cruse, Wingfield et al 1.
8-16-15 Bilyew, Woodley Pet. Co. 4.
9-17-16 Dumas, Woodley Pet. Co. 1.

Rigs
16-17-16 Andress, Atlantic Oil Prod. Co. 3.
8-16-16 Fee, G. J. Childs 2.
17-16-15 Cook, J. W. Clark 7.
9-16-15 Palmer, J. W. Clark 5.
14-16-15 Clawson, Gulf Refg. Co. 2.
5-16-15 Hardy-Murphy, Gulf Refg. Co. 37.
17-16-15 Wilson, Lion Oil & Refg. Co. 1.
9-17-16 Dumas, Magnolia Pet. Co. 1.
7-16-15 Hatfield, Magnolia Pet. Co. 6.
9-17-16 Slaughter, Magnolia Pet. Co. 1.
10-16-15 Lawton, Mazda Oil Corp. 6-R.
5-16-15 Flenniken, Moco Oil Corp. 9.
8-16-15 Flenniken, Natural Gas & Fuel Co. 2.
10-17-16 Begg, Smith Oil Corp. 1.
9-16-15 Murphy, Stewart et al 4.
6-16-15 Hatfield, Sun Oil Co. 8.
8-16-15 Bilyew, Unity Pet. Co. 9-A.
16-16-14 Goodwin, Williams et al 2.
9-17-16 Slaughter, Wingfield et al 1-A.

Shut Down
8-18-12 Garner, Bonderant et al 1.
18-16-15 Murphy, George & Jones 5.
17-16-15 Murphy, E. M. Jones 9.
17-16-15 Sanford, W. R. Keever 5.
5-16-15 Flenniken, Moco Oil Corp. 5.
17-16-15 Harrell, Natural Gas & Fuel Co. 5-A.
17-16-15 Smith, Leo P. Pukrul 2.
6-16-15 Flannigan, Sinclair Oil & Gas Co. 8.

Wells drilling	58
Wells shut down	8
Rigs	19

Ouachita County—
Wells Drilling
31-15-15 Laney, Calcord et al 5.
29-15-16 Kyle, Gilliand Oil Co. 8.
26-15-16 Arnold, Humble Oil & Refg. Co. 11-B.
5-16-15 J. Goodwin, Magnolia Pet. Co. 12.
30-15-16 Shirey Fee, Magnolia Pet. Co. 3.
5-16-15 Umsted, Marine Oil Co. 10.
36-15-17 Lagrone, A. Meek, trustee 3.
29-15-15 Goodwin, Ohio Oil Co. 7.
28-15-15 Brister, Pure Oil Co. 3.
13-15-17 Smith, J. D. Reynolds 1.
32-15-15 Bennett, Roxana Pet. Corp. 4-A.
34-15-15 Snyder, Roxana Pet. Corp. 5.
29-15-15 T. Murphy, Simms Oil Co. 5.
32-15-15 Reynolds, Simms Oil Co. 9.
34-15-15 Joyce, Southern C. O. P. Co. 6.
4-16-15 Murphy, Southern C. O. P. Co. 4.
4-16-15 Umsted, Southern Co. O. P. Co. 4-A
3-16-15 Johnson, The Texas Company 11.
33-15-15 Umsted, Unity Pet. Co. 9.
4-16-15 Umsted, Woodley Pet. Co. 4-A.
22-15-19 Davis, Buffalo Oil Co. 2.
27-15-19 Morgan, Equity O. & D. Co. 1.
22-15-19 Thompson, J. D. Reynolds 1.

Rigs
36-15-16 F. A. & B. T. Laney, Sunny Jim Oil Co. 3.
Shut Down
32-11-17 Milne, H. M. Harrell 1.
6-16-18 McClanahan, Imperial Oil & Gas Co. 7-A.
4-13-17 Higgins, Neibert et al 1.
6-16-15 Flannigan, Sinclair Oil & Gas Co. 9.
33-15-16 Umsted, Standard Oil Co. of Louisiana 12.
32-15-15 Umsted, Standard Oil Co. of Louisiana 5-B.
Shut Down
22-14-17 Yarbrough, Vandiver et al 1.
26-15-19 Davis, Gossett et al 1.
22-15-19 Thompson, Gossett et al 1-A.
22-15-19 Davis, J. D. Reynolds 1.
Wells drilling 23
Wells shut down 10
Rigs 1
Nevada County—
Wells Drilling
2-14-21 J. D. Ellis, Bemis et al 3.
2-14-21 Ellis, Humble Oil & Refg. Co. 2.
2-14-21 Graves, Humble Oil & Refg. Co. 2.
11-14-21 Waters, Keystone Oil Co. 9.
3-15-21 B. F. Johnson, Magnolia Pet. Corp. 1.
2-14-21 Waters, Smitherman & McDonald 3
22-13-21 Tidwell, Straughn & Greason 1.
10-14-21 Womack, Zing et al 4.
Rigs
2-14-21 Graves, Humble Oil & Refg. Co. 3.
Shut Down
10-15-22 Calloway, Humble Oil & Refg. Co. 2
Wells drilling 8
Wells shut down 1
Rigs 1
Columbia County—
Wells Drilling
13-15-20 Brown, Hudes & Aarnes, 2.
29-19-20 Peter Doss, Kentucky-Arkansas Pet. Co. 1.
36-15-20 Rhinehart, Magnolia Pet. Co. 8.
23-18-23 Robinson, Pluto Oil Co. 2.
Shut Down
20-16-18 Watts, Miller et al 1.
35-18-19 Duffer, Smith & Compton 1.
4-16-21 Bodcau, Wingfield & Mitchell 1.
Wells drilling 4
Wells shut down 3

ARKANSAS WILDCATS
Wells Drilling
29-15-14 Calion Lumber Co. Magnolia Pet. Co. 1.
12- 9-20 Arnold, Virgil Heath, trustee 1.
35-10-20 Brown, Whelen Oil Co. 1.
29- 9-10 Moore, Haley et al 1.
23-10-25 Garland, Burton et al 1.
10-11-21 Hawkins, Mellick Oil Co. 1.
25-15-26 Dale, Lenze et al 1.
Rigs
1-16-14 Calion, Southern C. O. P. 1.
Shut Down
20-15- 7 Bledsoe, Rhodes & Kirker 1.
21-16-12 Brown, Easley et al 1.
24-15-15 Freeman, Genther et al 1.
26-16-13 Freeman, Harris & Buckley 1.
29-10-16 Owens, McNeil et al 1.
35-13- 5 Olga, McClintock & Goodka 1.
27-12-17 Hempstead, Grassy Lake Oil Association 1.
2-13-31 Allen, Grote et al 1.
36-15-27 Wiseman, J. L. Bragden 1.
22-14-26 Munn, Buzzard Bluff Oil Co. 1.
Wells drilling 7
Wells shut down 10
Rigs 1

LOUISIANA
WELLS COMPLETED
Bossier Parish—
18-17-11 Murf, Culbert et al 1 ..... dry
9-18-17 C. D. Sandidge, Simms Oil Co. 1 ..... dry
15-19-11 Connell, Autrey et al 1 20
14-19-11 Larkin, Hanby, trustee 1 5
Wells completed 4
Oil wells 2
Production 25
Dry 2
Caddo Parish—
21-22-15 Donovan, Dixie Oil Co. 3 15
14-21-15 Fitzsimmons, Dixie Oil Co. 7.. 10
16-20-16 Ferry Lake, Gulf Refining Co. 226 325
17-23-16 Stark, J. Walter 1 ..... dry
15-21-15 Vespy, Lewis Oil Corp. 5 10
14-21-15 Robertshaw, Dixie Oil Co. 72 15
13-20-15 Youree-Randolph, D. C. Richardson 4 ..... gas
13-21-15 Noel, Dixie Oil Co. 2-B ..... gas
21-20-16 Ferry Lake, Gulf Refg Co. 225 dry
15-21-15 Red Bayou, O'Dell & Lawton 4 15
22-22-15 Jolly, Shawmut Pet. Co. 3.... 2
22-22-15 Jolly, Shawmut Pet. Co. 4.... 3
15-21-15 Dreyfus & Lane, Shrader et al 2 2
23-22-15 Allen, H. J. Bussa 7 10
21-22-15 Donovan, Dixie Oil Co. 4.... 12
15-21-15 Herndon, Gulf Refg. Co. 9.... 5
Wells completed 16
Oil wells 12
Production 409
Gas wells 2
Production 20,200,000
Dry 2
La Salle Parish—
26-10-1e Tullos, Atlantic Oil Producing Co. 2 50
26-10-1e Russell, B. & B. Drilling Co. 1 100
25-10-1e Miles, O. W. Clark 2 350
26-10-1e Russell, O. W. Clark, 1-B.... 100
26-10-1e H. Tullos, Daniels et al 1.... 750
24-10-1e Urania, Dixie Oil Co. 2 65
26-10-1e Tullos heirs, Hunt et al 1.... 50
27-10-23 La. Central Lbr. Co., Sam Hunter 1 ..... dry
27-10-1e Russell, Louisiana Oil Refg. Corp. 1 200
30-10-1e Tremont, Louisiana Oil Refg. Corp. 8-A 25
25-10-1e Tremont, Louisiana Oil Refg. Corp. 17-B 1200
25-10-1e Tremont, Louisiana Oil Refg. Corp. 26-B 200
26-10-1e Clinton, Standard Drlg. Co. 1 500
19-10-1e Urania, Standard Oil Co. of Louisiana 1 125
19-10-2e Urania, Standard Oil Co. of Louisiana 2 140
23-10-1e Tullos, Atlantic Oil Producing Co. 3 ..... dry
24-10-1e Urania, Dixie Oil Co. 3 10
26-10-1e Gaharan, Explorers Oil Corp 2 10
24-10-1e Pendarvis, Galloway et al 1.. 50
25-10-1e Bennett, Hamilton et al 2.... 150
7-10-2e Urania, Hunt, McCurry & Zoder 1 350
24-10-1e Bass, Louisiana Oil Refining Corp. 3 75
25-10-1e Tremont, Louisiana Oil Refining Corp. 13-B ..... dry
25-10-1e Tremont, Louisiana Oil Refining Corp. 16-B 350
25-10-1e Tremont, Louisiana Oil Refining Corp. 25-B 200
25-10-1e Tullos, Natural Gas & Fuel Co. 5 50
25-10-1e Tullos, Natural Gas & Fuel Co. 6 75
26-10-1e Roark, Standard Drlg. Co. 1 .. dry
26-10-1e King, O. F. Whittaker 1 50
26-10-1e Tullos, Atlantic Oil Producing Co. 1 175
13-10-1e Urania, Ayers et al 2 ..... dry
26-10-1e Russell, O. W. Clark 1-A..... 50
26-10-1e Gaharan, O. W. Clark 1 ..... dry
23-10-1e Tullos, O. W. Clark 2 50
25-10-1e Sadie York, W. W. Hawkins 1 300
25-10-1e Bass, Louisiana Oil Refining Corp. 1 80
24-10-1e Urania, Ohio Oil Co. 1 50
16-10-2e Urania, Zeigen et al 3 ..... dry
26-10-1e Tullos, Atlantic Oil Producing Co. 4 50
25-10-1e Urania, Beckman et al 5 50
26-10-1e Russell, O. W. Clark 1 25
26-10-1e Smith, O. W. Clark 1 30
23-10-1e Tullos, Explores Oil Corp. 1... 30
26-10-1e Jerrell, Ferguson et al 1 40
23-10-1e Pendarvis, Galloway et al 2.. 10
26-10-1e Sayers, Greenwall et al 1 30
12-10-1e Urania, Hudson A. E. trustee 1 dry
26-10-1e Tullos heirs, Hunt et al 2.... 50
25-10-1e Tremont, Louisiana Oil Refining Corp. 7-B 50
25-10-1e Tremont, Louisiana Oil Refining Corp. 11-B 30
25-10-1e Tremont, Louisiana Oil Refining Corp. 27-B 100
25-10-1e Tremont, Louisiana Oil Refining Corp. 28-B 200
25-10-1e Russell, Roberts et al 1 20
26-10-1e Bass, Standard Drlg. Co. 1 .. 25
19-10-2e Urania, Standard Oil Co. 4.. dry
25-10-1e Miles, Tullos Oil Co. 2 200
26-10-1e Herbert, Williams Drlg. Co. 1 50
25-10-1e Price heirs, Youngblood & Ertel 1 125
Wells completed 58
Oil wells 49
Production 6925
Dry 9
Ouachita Parish—
24-19-4e Fee, Palmer Oil Corp. 1 .... gas
24-20-4e Archie, United Carbon Co. 1.. gas
6-15-5e Jones, Southern Carbon Co. 1.. dry
Wells completed 3
Gas wells 3
Production 15,000,000
Dry 1
Webster Parish—
21-21-10 Robins, Alabama Pet. Co. 3-A 150
21-21-10 Bodcau, Ohio Oil Co. 35 85
23-21-10 A. J. Hodges, Ohio Oil Co. 1.. gas
Wells completed 3
Oil wells 2
Production 235
Gas wells 1
Production 4,000,000

LOUISIANA WILDCATS
Claiborne Parish—
7-22- 5 Meadows, Triangle Drlg. Co. 1 dry
DeSoto Parish—
31-13-11 Willis Williams, Gulf Refining Co. 18-C ..... dry
31-13-11 Williams, Gulf Refining Co. 10 ..... dry
Natchitoches Parish—
3-11- 8 Wafer, Amerada Pet. Corp. 1 dry
Union Parish—
1-20-2e Jenny, Natural Gas Producing Co. 1 ..... gas
17-20-1e Dubach, Empire Gas & Fuel Co. 1 ..... dry
Wells completed 6
Dry 5
Gas wells 1
Production 30,000,000

DRILLING OPERATIONS
Bossier Parish—
14-23-14 Murray, Arkansas Fuel Oil Co. 1.
17-18-11 Hale & Rumbough, Square Deal Oil Co. 1.
18-19-13 Kilburn, Woodley & Collins 1.
14-19-11 Larkin, Hanley, trustee 2.
23-19-11 Larkin, Hanley, trustee 3.
23-19-11 Bliss & Wetherbee, Humble Oil & Refg. Co. 29.
Rigs
22-19-11 Snyder, Autrey et al 1.
Shut Down
23-19-11 Strange, Olmstead et al 10.
28-19-11 McDade, Osborne et al, 3.
Well drilling 5
Wells shut down 2
Rigs 1
Caddo Parish—
13-2-15 Lane, Arkansas Natural Gas Co. 1.
24-22-15 Hardeman, H. J. Bussa, 1.
21-22-15 Donovan, Dixie Oil Co. 5.
27-22-15 Jolly, Dixie Oil Co. 1.
14-21-15 Robertshaw, Dixie Oil Co. 71.
11-21-15 Robertshaw, Dixie Oil Co. 73.
27-21-15 Wadkins, Double I. I. O. Co. 5.
16-20-16 Ferry Lake, Gulf Refg. Co. 227.
22-20-16 Ferry Lake, Gulf Refg. Co. 228.
15-20-16 Ferry Lake, Gulf Refg. Co. 229.
15-21-15 Herndon, Gulf Refg. Co. 7.
13-21-15 Lane, Gulf Refg. Co. 17.
35-21-15 Muslow, Gulf Refg. Co. 1-E.
14-21-15 Tyson, Gulf Refg. Co. 12.
15-21-15 Hampton, Mrs. N. M. Hancock, 2.
15-21-15 Vespy, Lewis Oil Corp. 6.
5-20-15 Doan Thigpen, Magnolia Pet. Co. 15.
29-21-15 Spell, Magnolia Pet. Co. 1.
24-21-15 Bradford, Magnolia Pet. Co. 1.
15-17-14 Cunningham, Manie Drlg. Co. 1.
1-21-15 Ardis, Ohio Oil Co. 1.
12-21-15 Smith, Ohio Oil Co. 18.
24-21-16 Hart, Standard Oil Co. 11.
23-21-15 C. M. L. Co., The Texas Company 23.
23-21-15 C. M. L. Co., The Texas Company 42.
16-15-12 Caddo School Board, The Texas Company 1.
15-20-16 Bayou, The Texas Company, 1-B.
33-21-16 Levee Board, Texas Co. 60.
3-20-16 Russell, The Texas Company 11.
13-21-16 Harrell, The Texas Company 52.
35-16-12 Knight, Woodley Pet. Co. 1.
No Rigs
Shut Down
8-19-16 La. L. S. & P. Co., Haynes Bros. 1.
29-22-15 Caldwell, Handerson et al 1.
8-20-15 Levee Board, Magnolia Pet. Co. 2.
29-21-15 Hobbs, Page & Caldwell 1.
3-15-15 Williams, Ridge Oil Co. 1.
Wells drilling 31
Wells shut down 5
DeSoto Parish—
9-12-11 Jenkins, Dixie Oil Co. 1.
27-12-11 Bond, Magnolia Pet. Co. 1.
2-12-12 Wemple, The Texas Company, 10-A
36-12-11 Harp, J. C. Walton, 1.
Wells drilling 4
Rigs 0
Wells shut down 0
Moorehouse Parish—
Wells Drilling
11-21-7e Sullivan, Boisseau et al 1.
13-21-4e Crossett, Natural Gas Producing Co. 17.
Wells drilling 2
No rigs, no wells shut down.
Ouachita Parish—
Wells Drilling
30-19-5e Fee, J. M. Huber, Inc. 7.
12-18-4e Millie Roberts, G. E. Jordan 1.
36-19-4e Fee, Ladell et al 33.
11-18-4e Fillhol, Pioneer Oil & Gas Co. 1.
Shut Down
23-15-13e Cordell, Culber et al 1.
32-19-3e D'Arbone, Sam D. Hunter 1.
Wells drilling 4
Wells shut down 2
Sabine Parish—
Wells Drilling
9- 7-12 Bowman, L. M. Emiet, 5.
24- 4-12 Pickering, Toro Pet. Co. 1.
Wells drilling 2
No rigs, no wells shut down.
Webster Parish—
Wells Drilling
21-21-10 Robins, Alabama Pet. Co. 1-B.
30-23- 9 Miller, Arkansas Natural Gas Co. 1.
9-22-11 Bollinger, Doern et al 1.
8-20- 9 Bible, Magnolia Pet. Co. 1.
21-21-10 Tiner, Magnolia Pet. Co. 1.
23-21-10 Cox Ohio Oil Co. 1.
16-21-10 Sidney, Ohio Oil Co. 6.
29-23-11 Oakley, Smitherman & McDonald 1
Shut Down
22-21-10 Cox, Humble Oil & Refg. Co. 1.
27-21-10 Josey & Massey, R. W. Norton 1.
Wells drilling 8
Wells shut down 2
No rigs.
Winn Parish—
Wells Drilling
6-10-2w Sullivan, Cedar Creek Pet. Co. 1.
6-10-2w Eagles, J. H. Hall, 1.
27-10-1e Albritton, Standard Oil Co. 1.
Rigs
13-11-1e Urania, Cherokee, Pet. Co. 1.
Wells drilling 3
Rigs 1
No wells shut down.
LaSalle Parish—
Wells Drilling
25-10-1e Bass, O. W. Clark 1.
26-10-1e Renfroe, Bailey et al 1.
26-10-1e J. D. Russell, O. W. Clark, 2-A.
25-10-1e K. S. Russell, Cook Drlg. Co. 2.
24-10-1e Urania, Dixie Oil Co. 4.
26-10-1e Tyler, Greenwall et al 1.
26-10-1e Volk, Hamilton & Musick 1.
26-10-1e Tullos heirs, Hunt et al 3.
26-10-1e Tullos heirs, Hunt et al 5.
18-10-2e Winberry, Hunt et al 1.
25-10-1e Russell, H. M. Jones, 4.
26-10-1e Perrin, Jones & Womack 1.
25-10-1e Russell, Keisker trustee 1.
26-10-1e Fee, Kimbrough & Willis 1.
25-10-1e Tremont, Louisiana Oil Refining Corp. 15-B.
25-10-1e Tremont, Louisiana Oil Refining Corp. 29-B.
25-10-1e Tremont, Louisiana Oil Refining Corp. 30-B.
25-10-1e Bass, Long et al 1.
26-10-1e Russell, Mostrot et al 1.
26-10-1e Herbert, Mitchell et al 1.
26-10-1e T. Russell, Natural Gas & Fuel Co. 1.
26-10-1e H. Tullos, Natural Gas & Fuel Co. 2.
26-10-1e H. Tullos, Natural Gas & Fuel Co. 4.
18-10-2e Urania, Natural Gas & Fuel Co. 1-B.
18-10-2e Urania, Ohio Oil Co. 4.
25-10-1e Russell, Sherman et al 1.
26-10-1e Clinton, Standard Oil Co. 2.
19-10-2e Urania, Trio Oil Co. 1.
25-10-1e Norrid, George W. Wetherbee 1.
36-10-1e King, O. F. Whittaker 2.
26-10-1e Herbert, Williams Drlg. Co. 2.
18-10-2e Urania, Zeigen et al 3.
Rigs
25-10-1e M. M. King, Abercrombie Co. 1.
36-10-1e Tannehill, Arizola Pet. Co. 1.
36-10-1e Tannehill, Arizola Pet. Co. 2.
13-10-1e Urania, Ayers et al 3.
26-10-1e J. D. Russell, O. W. Clark 2.
26-10-1e Herbert, Cox et al 2.
36-10-1e Keith, Explorers Oil Corp. 1.
25-10-1e Kyle & Davis, Fergerson et al 1.
25-10-1e King, J. O. Graves 1.
23-10-2e Tremont, Louisiana Oil Corp. 4-A.
25-10-1e J. D. Russell, McWilliams & Foster 2.
19-20-2e Urania, Standard Oil Co. 3.
13-10-1e Urania, Standard Oil Co. 5.
Shut Down
26-10-1e Smith, W. H. Burckhartt 1.
26-10-1e State, Hunt et al 1.
26-10-1e Tullos heirs, Hunt et al 4.
16-11-2e Love, Wright et al 1.
Wells drilling 32
Wells shut down 4
Rigs 13

LOUISIANA WILDCATS
Wells Drilling
30-21- 7 Shaw, Standard Oil Co. 4.
22-23- 5 Cupp, Triangle Drlg. Co. 1.
7-19- 5 Keen, Triangle Drlg. Co. 1.
12-30-3w Davis, Buckley & Palmer 1.
28-18-1w Tremont, The Texas Company 1.
3- 4 3e Lanier, Wheeler & Wilbanks 1.
14-20-1e Reeves, Arkansas Fuel Co. 1.
16-20-3e Thompson, Louisiana Power Co. 1.
Shut Down
20- 9-1e Holmes, Dowling & McCurry 1.
29- 5-2e Barrow, Hincey & Marke 1.
Rigs
18-19-1e Swope, Dowling & McCurry 1.
Wells drilling 1
Wells shut down 2
Rigs 1

ROCKY MOUNTAINS

WYOMING

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tu.
Big Muddy ..	1	50	0	0	0	0	1
Salt Creek ..	31	15,198	0	0	19	38	57
Lance Creek .	0	0	0	0	0	3	1
Big Horn Basin ..	3	475	0	0	3	56	59
Lost Soldier & Carbon Co..	4	400	2	1	3	34	37
Rock River district	1	190	0	0	0	13	13
Fremont Co...	2	595	0	0	1	36	37
Osage	0	0	0	0	5	11	16
Natrona Co..	1	0	1	0	0	10	10
Lincoln and Uintah Cos..	0	0	0	0	2	27	29
Baxter Basin.	0	0	0	0	0	7	7
Miscellaneous..	0	0	0	0	2	33	35
Total Mar..	43	17,008	3	1	35	268	307
Total Feb...	31	10,029	2	3	34	282	316
Difference..	12	6,979	1	2	1	14	15

MONTANA

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tu.
Sunburst	9	4,077	1	2	11	66	77
Cat Creek and Miscellaneous.	4	0	4	0	6	84	90
Total Mar..	13	4,077	5	2	17	140	157
Total Feb...	11	4,085	3	0	23	135	158
Difference..	2	8	2	2	6	5	1

COLORADO

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tu.
Total Mar..	5	430	2	0	18	107	125
Total Feb...	3	1,860	0	0	19	106	125
Difference..	2	1,430	2	0	1	1	0

UTAH

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tu.
Total Mar.....	0	0	0	0	2	32	34
Total Feb.....	0	0	0	0	2	31	33
Difference..	0	0	0	0	0	1	1

NEW MEXICO

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tu.
Total Mar....	22	910	5	0	11	138	149
Total Feb.....	18	1,090	6	0	13	137	150
Difference..	4	180	2	0	2	1	1

WYOMING

BIG MUDDY

Shut Down
2-33-76 Fenix, Continental Oil 4.
Rigs, 0; wells drilling, 1; total, 1.

SALT CREEK

Rigs
13-39-79 SE, Blackstone Salt Creek 4-F.
34-39-79 SW, Mammoth Oil Co. 302.
34-40-78 NW, Mammoth Oil 305.
28-39-78 NW, Mammoth Oil 405.
28-39-79 NE, Mammoth Oil 406.
13-39-78 SW, Wyoming Teapot Oil Co.
16-39-78 NE, Nicholaysen et al.
19-40-79 NE, Norris Oil 18-A.
10-38-78 NW, Mammoth Oil 302.
8-39-78 NE, Sinclair Wyoming 11.
6-39-78 NE, Mt. & Gulf 29-A.
31-39-78 SE, Teapot Development Co.
35-40-79 SE, Midwest Oil Co. 31-A.
1-39-79 SE, Continental Prod. Co. 11-A.
6-39-78 SE, Mt. & Gulf 8-A.
5-39-78 NW, Carter Oil 12-D.
8-39-78 NE, Western States O. & L. 29-A.
17-39-78 SE, Argo Oil 2-M.
35-40-79 SE, Mt. & Gulf 31-A.
Wells Drilling
2-39-79 Continental Prod. Co. 4-Ls.
5-39-78 NW, Western States O. & G. 29-A.
25-40-79 SW, Wyoming Oil Fields 12-L.
35-40-79 SW, Midwest Oil 18-L.
29-40-78 NW, Texas Prod. 29-A.
28-40-79 SW, Jupiter Oil 34-S.
35-40-79 SE, Wyoming Associated 21-L.
34-40-79 NE, Wyoming Associated 24-L.
35-40-79 NW, Wyoming Associated 19-L.
23-40-79 NE, Wyoming Associated 33-L.
2-39-79 NW, Midwest Oil Co. 15-L.
29-40-78 NW, Texas Prod. Co. 17-A.
19-40-78 NW, Utah Oil Refg. Co. 12-A.
32-40-78 SW, Continental Oil Co. 18-A.
22-40-79 SE, Wyoming Oil Fields 18-A.
25-40-79 NE, Wyoming Oil Fields 22-A.
35-40-79 NW, Wyoming Asso. 34-X.
23-40-79 NE, Wyoming Asso. 33-L.
23-40-79 NE, Wyoming Asso. 3-L.
26-40-79 SW, Wyoming Asso. 36-L.
14-40-79 SE, Wyoming Asso. 21-L.
23-40-79 SW, Wyoming Asso. 19-L.
26-40-79 NE, Wyoming Asso. 17.
2-39-79 NW, Midwest Oil Co. 8-A.
22-40-79 NE, Midwest Oil Co. 18-AS.
34-40-79 NE, Midwest Oil Co. 13-L.
19-40-78 SE, Texas Prod. Co. 25-AXS.
5-39-78 NW, Western States 29-A.
32-39-78 Texas Prod. Co. 29-A.
Shut Down
10-40-79 SE, Empire States Oil 25-A.
28-39-78 NE, Mammoth Oil 101.
29-39-78 NE, Mammoth Oil 108.
28-39-78 NE, Mammoth Oil 304.
28-39-78 SW, Mammoth Oil 302.
28-39-78 NW, Mammoth Oil 205.
4-38-78 NW, Mammoth Oil 101.
23-39-78 NE, Evans Oil Co.
29-39-78 NE, Omaha Lusk Oil Synd.
2-38-79 NE, Teapot Dome Synd. 34-A.
6-39-78 NE, Mt. & Gulf 34-A.
34-39-78 SW, Mutual Oil 35-A.
24-39-78 NW, Mutual Oil 22-AS.
19-39-78 NW, Kinney Coastal 19-A.
7-39-78 SE, Continental Prod. 1-DD.
15-40-79 SE, Prairie O. & G. 10.
34-40-79 Continental Prod. 35-A.
32-40-78 SW, Jupiter Oil Co. 27-A.
Rigs, 19; wells drilling, 38; total, 57.

LANCE CREEK
Wells Drilling
3-35-65 Belle Cattle Co., Mutual Oil 9.
Shut Down
18-35-65 NE, Union Oil Co.
Rigs, 0; wells drilling, 3; total, 3.
BIG HORN BASIN
Rigs
23-44-95 Flavin, Ohio Oil 1.
5-47-90 Hetzler, Ohio Oil 1.
32-56-97 Howell, Occidental Oil & Gas.
31-48-90 Tensleep, Ohio Oil 3.
7-54-93 Garry Oil & Dev. Co.
15-49-91 Shaffer & Tilley.
18-46-93 Washakie, Ohio Oil Co. 4.
28-44-93 West Zimmerman Butte Oil.
8-51-100 Union Oil Co.
20-53-101 NE, Washington Oil & Gas.
1-44-102 T. C. Clark et al .
21-53-101 Guiterman et al.
14-46-102 Big Horn Basin Dev. Co.
20-53-101 Taylor Bros.
7-46-98 Washakie, Ohio Oil 2.
35-56-97 Cross Gas Co., Ohio Oil 68.
20-46-98 Mill Iron, Ohio Oil 2.
5-51-67 SW, C. M. Carroll et al.
9-54-94 SW, Wisconsin-Illnes Co.
15-46-95 SW, F. L. Pierce.
19-54-93 SW, Crystal Creek Syndicate.
32-47-100 NW, Prairie Oil & Gas Co.
23-44-96 Mt. States Pet. 1.
19-46-98 State, Ohio Oil 41, 42.
3-56-98 Winther et al.
20-53-101 Elk Butte Oil & Gas.
34-43-91 SE, Union Oil Co. 1-A.
28-43-91 NW, Union Oil Co. 1-A.
10-56-95 SE, Allen Oil Co.
31-43-93 Utah Oil & Refg. Co. 3.
33-43-94 SW,Wyoming-Montana Oil Co.
Shut Down
3-44- NE, F. A. McPherson.
5-44-93 Royal Oil & Refg. Co.
29-56-97 NE, Utah Southern Oil Co.
35-57-91 NE, American Indian Oil Co.
4-51-100 Florence Oil Co.
3-55-97 Griffin, Allen Oil Co.
2-47-100 NE, Midwest Refg. Co.
34-56-97 Linton, Allen Oil Co.
31-45-99 NW, Kasoming Oil Co.
22-40-91 SW, Olympus Oil Co.
17-49-91 Frontier Oil & Gas.
27-46-98 Rankin, Dickie Oil Co.
8-46-98 Grass Creek Prod.
3-56-90 Beck Pet. Co.
16-47-100 Big Horn Dev. Co.
19-51-92 Bruce Holding Co.
34-43-92 C. D. Markham et al.
10-54-95 SE, Westland Oil Co.
35-55-95 Westland Oil Co.
20-53-100 NE, Pittsburgh Southwestern.
5-43-91 SW, Producers & Refiners.
11-49-102 T. A. Stancliff.
11-49-102 Omar Oil & Gas.
17-46-98 Washakie, Ohio Oil Co. 1.
36-58-100 Local Oil Co.
10-56-98 SE, Victor Cotner.
18-46-98 Tumador Oil Co.
Rigs, 3; wells drilling, 56; total, 59.
LOST SOLDIER & CARBON COUNTIES
Rigs
24-21-88 E. R. Goode.
12-19-87 Marland Oil 1.
1-26-90 Prairie Oil & Gas 71-A.
Wells Drilling
14-20-88 SE, Lake Valley Oil Co.
16-26-88 General Pet. Corp.
2-19-88 Producers & Refiners 3.
1-26-90 Producers & Refiners 6.
26-26-88 Producers and Refiners.
25-26-87 Producers & Refiners 17.
14-20-88 Lake Valley Oil Co.
26-20-88 SE, Hatfield Oil 1, 2.
34-26-88 Prairie Oil & Gas 1-AX.
2-29-89 Prairie Oil & Gas 2.
6-23-88 Prairie Oil & Gas 2.
31-26-88 Sugar Creek, Producers & Refiners 17.
14-20-88 Lake Valley Oil Co.
26-20-88 SE, Hatfield Oil 1, 2.
34-26-88 Prairie Oil & Gas 1-AX.
2-23-89 Prairie Oil & Gas 2.
6-23-88 Prairie Oil & Gas 2.
31-26-88 Sugar Creek, Producers & Refiners 2.
3-26-88 SE, Prairie Oil & Gas 70-A.
11-26-90 Prairie Oil & Gas 67-A.
11-26-90 Prairie Oil & Gas 61-A.
11-26-90 Prairie Oil & Gas 34.
21-26-88 Prairie Oil & Gas 1-B.
Shut Down
3-26-90 Sand Hills Oil 5.
28-26-88 Govt. Land, Columbia Pet. Co.
4-26-90 SE, Sand Hills Oil 4.
23-26-87 SE, Marvin Oil Co.
28-26-88 Govt. Land, Columbia Pet. Co.
9-26-90 SH, Major Oil Co.
34-27-90 M. M. Armstrong.
26-26-89 NW, E. R. Goode.
9-26-88 NE, General Pet. Co.
34-27-90 SW, Annabelle Oil Co.
1-26-90 SE, Producers & Refiners 6.
Shut Down
1-26-90 Prairie Oil & Gas 65.
28-26-86 Portland Wyoming 1 and 2.
21-26-86 Portland Wyoming 3.
9-31-86 St. Mary's, Prod. & Refs. 1.
Rigs, 3; wells drilling, 34; total, 37.
ROCK RIVER
Wells Drilling
1-18-78 Dutton Creek, Midwest Refg. Co.
34-20-78 SW, M. L. Lundy.
23-21-79 SE, Southwestern Pet. Co.
8-17-77 SE, Texas Prod. Co.
13-17-77 Texas Prod. Co.
Shut Down
10-18-77 Carbon County Oil Co.
12-20-77 McLaughlin et al.
26-21-78 SE, Southwestern Pet. Co.
34-23-79 NE, Central Pipe Line Co.
14-66-77 SE, Rex Dome Oil Co.
31-21-79 SW, Southwestern Pet. Co. 1.
36-21-79 NW, Southwestern Pet. Co. 3.
12-16-74 SW, G. A. Briggs.
Rigs, 0; wells drilling, 13; total, 13.
FREMONT COUNTY
Rigs
16-31-91 E. T. Glenn.
Wells Drilling
24-32-95 Seal Oil Association.
9-31-98 Martin F. Fold et al.
15-34-90 Ward Oil Co.
21- 1- 1 McDonald et al.
14-32-80 Meyers Pet. Co.
7-27-95 Van Wyo., Prairie Oil & Gas 1.
13-28-93 Spencer et al.
10-28-93 SE, Union Oil Co.
18-28-93 SE, Producers & Refiners.
10-32-93 Producers & Refiners 5.
15-32-95 SE, Texas Prod. 1.
27- 6- 2 SW, Kinney Coastal Oil Co.
21- 1- 1 Wyoming Syndicate.
14-32-95 NW, Riverton Pet. Co. 1.
17-27-95 Brimmer, Prairie O. & G. 2.
13-28-93 Producers & Refgs. 1 and 2.
15- 5- 1 Carter, Union Oil Co. 1.
19-27-95 Brimmer, Prairie O. & G. 1.
Shut Down
36-37-94 Wyoming Syndicate.
6- 4- 2 SW, Union of California 2.
10-36-94 NW, Myrin Oil Co.
18-36-95 Sage Creek Pet. Co. 3.
29-27-95 Fremont Pet. Co.
22- 6- 2 Miles City Oil Co.
3- 1- 2 NE, Teton Pet. Co.
4-31-93 Derby Dome Wyoming.
9-32-95 NE, Producers & Refiners 2.
4-31-93 Burnside Oil Co.
23-32-95 Producers & Refiners.
25-27-93 American Workers Oil (Zola.)
15-32-95 NE, Producers & Refiners 3.
15- 5- 2 Derby Dome Wyoming.
15- 6- 2 SW, Union Oil Co. 11.
15- 6- 2 SE, Union Oil Co. 12.
Rigs, 1; wells drilling, 36; total, 37.
OSAGE
Rigs
31-47-62 L. B. Hanson.
31-47-63 West Royalty.
Fawcett Ranch, Maniove et al
31-46-63 Clark et al.
17-46-63 LaFleiche.
Wells Drilling
17-47-63 Wyoming Oil Co.
18-46-64 Fred Gravestead.
50-46-63 Fletcher Bros.
31-46-63 Tom Don Oil Co.
17-46-63 La Fleiche Oil Co.
8-46-63 John O'Brien.
36-46-63 John O'Brien.
Shut Down
1-46-61 Lenhart & Briggs.
11-46-65 Frederick Oil & Gas.
6-46-63 Osage Trust Co.
8-46-63 Griffith Oil Co.
Rigs, 5; wells drilling, 11; total, 16.
NATRONA COUNTY
Wells Drilling
11-32-79 C. B. Mathewson.
15-32-95 Texas Prod. Co.
15-34-87 NE, Continental Oil Co.
11-32-92 New York Oil Co.
9-35-85 New York Oil Co.
32-38-83 Wilson Dome, Marland Oil Co.
Shut Down
23-34-82 Bradford Wyoming Oil.
15-32-82 Bessimer Bend Dev. Co.
5-39-80 NW, Vernon Oil Co.
19-35-85 SW, New York Oil Co.
Rigs, 0; wells drilling, 10; total, 10.
LINCOLN AND UINTAH COUNTIES
Rigs
31-28-113 Tip Top Oil Co.
12-39-113 Cretaceous Oil Co.
Wells Drilling
32-19-116 Conger et al.
Near Afton Great Western Oil Co.
23-31-113 Three States Oil.
3-26-113 Superior Oil Co.
15-21-117 Pacific Properties Co.
6-15-118 Vulcan Oil Co.
7-28-114 Charles Lackey et al.
34-27-113 Wyotah Oil Co.
23-27-113 Fawcett Interests.
6-15-118 Olson Bros.
Section 26 LaBarge, Wooten interests.
Sec. 32, La Barge, Portland Oil Co. 1.
8-26-113 SE, Reece Oil Co. 1.
27-27-113 NW, Reece Oil Co. 1.
9-26-113 Transcontinental Oil Co.
26-27-113 Myrta Bonnett 1-X.
26-27-113 W. F. Atkins.
Shut Down
17-27-112 Western Slope Oil Co.
9-26-113 Uintah-Transcontinental Co.
32-19-110 Granger Oil & Gas.
22-26-113 NW, Big Piney Oil Co.
3-26-113 SW, Fawcett & McPherson.
4-26-113 SE, Uintah Oil Co. 1.
3-26-113 NE, Wyoming Reserve Oil Co.
35-27-113 SE, Asso. Prod. Synd. 2.
27-27-113 NW, Beneficial Oil Co. 5.
34-27-113 SW, Beneficial Oil Co. 6.
Rigs, 2; wells drilling 27; total, 29.
BAXTER BASIN
Shut Down
26-17-104 Associated Oil Co. 3.
22-17-104 SE, Associated Oil Co.
24-17-104 SE,Montical Oil Co.
8-16-104 SE, Montical Oil Co.
27-17-104 SE, Montical Oil Co.
30-18-104 Midwest Refg. Co. 6-AX.
26-17-104 SE, Associated Oil Co.
Rigs, 0; wells drilling, 7; total, 7.
MISCELLANEOUS
Rigs
Baggs Dome, M. M. Armstrong.
26-48-64 SE, Associated Oil Co.
Wells Drilling
12-26-67 Platte River Drilling Co.
8-44-60 Briggs & Sartain.
5-51-67 C. M. Carroll et al.
28-31-68 John Ackard et al.
1-44-61 NE, Gose Syndicate.
24-26-82 NW, Foreman et al.
20-33-74 NW, Horseshoe Syndicate.
28-42-78 Seattle Synd.
Guernsey District, Illinois Synd.
28-42-79 Montana Giant.
Buffalo District, Kinney Coastal Oil.
32-19-110 Johnson Oil Co.
17-27-103 Steel Creek, Tarrant Synd. 2.
16-33-68 SW, Schuyler et al.
1-32-68 A. E. Maugt et al.
32-52-67 SW,Western Consolidated.
20-21-80 Producers & Refiners 11.
4-32-82 SE, Cfri Sackett et al.
23-46-62 SE, Olson-Spaulding Co.
7-48-82 Fairway Oil Co.
23-27-93 Associated Oil Co.
Shut Down
31-50-69 Rosst Oil Co.
20-29-68 Nebraska Oil Co.
18-39-68 Glendo Oil & Gas.
6-28-62 Jay, Elm., Foreman et al.
1-44-61 SW, Osage Trust Co. 2.
17-48-82 Hess, Carter Oil Co. 2.
9-41-80 Newcomb et al.
31-37-67 NW, Atlas Oil Co.
11-45-65 Reserve Oil & Gas Co.
28-47-65 NE, Gose Syndicate.
35-48-64 Lilly, Pump Creek Oil & Gas 1.
20-23-74 NW, Horseshow Synd.
Rigs, 2; wells drilling, 33; total, 35.
MONTANA
CAT CREEK
Rigs
12-15-28 NE, Schaffer Oil Co.
Wells Drilling
11-15-29 Cooke-Coolidge-Ida 1.
12-15-30 NE, Standard of California 7.
21-15-30 Masser, Keseling Oil Co.
23-14-28 Winnet, Pacific Oil Co.
1-15-29 Custer Oil Co.
9-15-29 NE, Frant Oil Co.
13-15-29 Green-Frantz Oil Corp. 10.
14-15-29 Clayton, Frantz Oil Corp. 15.
36-16-28 NE, Hardrock Oil Co.
5-15-29 Shaffer, Midwest Refg. Co.
7-15-29 NW, Hogan et al 2.
11-15-30 Fifty-Six Pet. Co. 14.
Shut Down
10-15-29 Fifty-Six Pet. Co.
15-15-30 Swarts et al.
28-16-28 Republic Peerless 1.
9-16-27 Peerless Oil Co.
Rigs, 1; wells drilling, 16; total, 17.
KEVIN-SUNBURST
Rigs
11-36- 2 Stockmans Nat'l. Bank.
29-35- 1 Benton, Arronow Oil Co.
4-32- 4 Swena, Beardsley 1.
20-34- 2 McBride, Canadian American Oil.
25-36- 2 Keskin, Troy Island Oil Co.
17-35- 1 Potiatch Oil Co. 2.
30-35- 1 Standard, Wallace Oil Co. 2.
20-35- 1 Steel, Big West Oil Co.
26-36- 2 Byrne, Treasurer State 5.
30-35- 1 Maughan, Ohio Oil Co. 4.
30-35- 1 Maughan, Ohio Oil Co. 9.
Wells Drilling
35-36- 2 Able, Ferdig Hughes et al 2.
5-35- 2 F. M. Bell.
9-32- 2 Suhr, Sunburst Prod. Co.
33-34- 2 NE, Frazier Oil Co. 2.
8-34- 2 Pittsburgh Montana Oil.
32- 3- 2 Roundsley, Sunburst Oil & Gas.
24-32- 1 Shelby Syndicate.
28-37- 2 McAlpine, Spartan Oil Co.
20-35- 2 Halter Sunburst Prod. Co.
18-34- 1 Skinner, Creel et al.
32-35- 1 Putnam, Keystone Oil Co.
7-34- 1 Harte, Russell et al.
30-35- 1 State, Tri-State Oil 3.
9-34- 2 O'Haire et al.
14-35- 2 Hagerty, Sunburst Oil & Gas 1.
35-35- 2 Able, Sunburst Oil & Gas 1.
22-35- 2 SW, Lorenson et al.
2-34- 2 DeGroat Ethridge Basin O. & G.
29-35- 1 Maughan, Sweeney Oil Co. 4.
18-30- 2 Ketley, Great Northern Prod.
17-35- 2 Frazer, Rice Oil Co. 1.
30-35- 1 Stannard, Tri-State Oil 5.
26-35- 2 Abell, California Co. 5.
35-35- 2 Abell, Ferdig et al 3.
8-34- 2 Hurley, McDonald et al.
24-34- 2 Demare, Potlewaite et al.
7-34- 1 Wilcox, Western Montana Oil 1.
1-34- 2 Steel, Bruce Radigan 2.
33-35- 1 Develir, Collins et al.
20-35- 1 Bailey, Flood Watson 1.
2-33- 4 Schuler, Medillia Drig. Co. 1.
1-34- 2 Faunce McIntire-Beckett.
26-35- 2 Abell, Hardock Oil Co.
12-33- 2 Taylor-Rittenhouse, Ohio Oil Co.
11-35- 2 Stockman's Bank, Ohio Oil Co. 2.
27-35- 2 Lorenson, Sunburst O. & G. 5.
9-35- 2 Howhug, Mid Northern Oil 8.
30-35- 1 Stannard, Rice Oil Co. 5.
31-34- 2 Overby, Sunburst Oil Refg.
30-35- 1 Farrish-Liebenan.
31-35- 1 Emmons, Dakota Montana 4.
13-34- 2 Morton-Liberty 1.
32-35- 1 Caine-Putnam.
Shut Down
20-33- 1 Solild, Flood Watson.
28-35- 1 Shelby, Federal-Miller.
22-33- 1 Webb, Shelby Oil & Gas.
12-34- 1 Peterson, Lucky Forty Oil.
13-32- 2 Campbell, Campbell Synd. 5.
16-34- 2 NW, Rainbow Oil Co.
1-34- 2 NE, Sunburst Oil & Gas.
31-35- 3 Leach, Cardson et al 1.
21-35- 3 Herman, Kevin O. & G. 2.
21-34- 1 Adams, Potiatch Oil Co. 1.
30-35- 1 Byrne, Fulton Oil Co. 7.
Rigs, 11; wells drilling, 56; total, 67.
MISCELLANEOUS
Rigs
24-14-15 Fullerton Oil & Gas.
1-210-32 Hibbard Oil Co.
4-28-30 Mid Northern Oil.
34-23- 2 Rainbow Syndicate.
21- 7-21 SW, Atlantic Oil Co. 1.
Wells Drilling
16- 2-29 Prairie Oil & Gas Co.
3-12-25 SW, Minn. Flatwillow.
Larson Dome, Montana Belle.
33-19- 7 SW, Hager Stephenson Oil.
24-14- 2 Coal Creek Oil.
13-18- 2 Coal Ridge, Montana Oil & Gas.
5- 2-16 Montana Portland Oil.
33-16-28 H. H. Swartz, Jr.
9-31-19 California Co.
14-14-25 Flatwillow, A. M. Z. Synd.
32-25-30 Butler Oil & Gas.
24-30-12 Continental Prod.
17- 3-19 Snyder, Mid Northern Oil.
4-27-20 California Co.
20-24- 1 C. A. McDonald et al.
16-15-25 SW, Great Northern Mutual.
3-27- 8 Robinson et al.
Genton Lake, Browning et al.
McDonald Creek, Wilson Fisher 3.
33-36- 2 Well Syndicate.
7- 8-27 NE, California Montana 1.
17- 2-18 NE, Gibson Land Co.
29-38-27 Glasgow Explor. Co.
13- 6-17 Mackey, Ohio Oil Co.
8-15-29 Deveraux, Deveraux Oil Co.
26-12- 1 Ainsworth, Neudigate Est. Inc.
18-30- 3 Kelley, G. N. Producers.
8-21-19 Bowes, California Co.
25-15-25 SW, Winnett Oil Co. 1.
26- 1-21 Modrell, Leonard Oil Co. 1.
4- 2-26 SW, C. B. McMemmemin et al.
27- 7-21 SW, Atlantic Oil Co.
24- 1-21 Record Pet. Co.
Shut Down
5-35-21 NE, F. G. Outland.
36- 1-12 State, Springdale Oil Synd.
2-26- 2 Jones, W. M. Edwards.
18- 3-23 SW, Securities Prod. Co.
5- 2-23 NE, American Indian Oil.
35-32-23 SW, Bowdoin Oil & Gas.
7-27- 7 NW, Circle Oil Co.
26-10-29 Stellar Oil & Gas Co. 6.
32-30- 2 Denzer, Drake Oil Co.
18- 6-24 Mennemier & Newman.
6-13-24 Fulton Oil Co.
26-14-20 Jackson Oil Co.
30-15-26 Winnett Shallow Oil Synd.
7-21- 1 Tri City Oil Co.
Devils Basin, Alberta Block Coal Co.
25- 2-27 Gladys Belle Oil.
Devils Basin, Montana Central Oil.
12-11-13 Kalispell Synd.
6- 5-25 Grey Eagle Oil.
2-28- 2 NE, Dry Fork Oil.
8- 4-23 NE, Hoosier Oil Co.
24- 5- 8 SW, Potter Basin Oil & Gas.
18-22- 3 SE, Elk Horn Oil & Gas.
10-18- 2 NE, Moscow-Idaho Oil.
23-30- 2 NW, West Virginia Oil.
27-36-22 SW, Mountain Chief 2.
24-14-25 NW, Henry Seibert.
14-21- 1 NW, Dunkirk Oil Co.
22- 4-21 SW, Olympus Oil Co.
32- 3-16 SW, Consolidated Oil & Gas.
18- 3-23 SW, Murray Bros. 4.
34-22- 1 G. N. Mutual 1.
6- 2-24 SE, American Indian Oil 2.
23-14-28 SE, Winnett Pacific 1.
9-10-38 SE, Stellar Oil & Gas 5.
Rigs, 5; wells drilling, 68; total, 73.
COLORADO
Rigs
8-66-88 Dennis, Texas Prod. Co. 1.
10- 3-44 Yuma Valley Oil Co.
1- 8-68 Morrell, Petroleum Prod. Co.
17- 8-68 Fort Collins Chief Oil.
29-10-68 American Pet. Co.
13-38-79 Green, Mountain Pet. Co.
31- 9-68 Midway Oil & Gas.
27- 2-70 Rainbow Oil Dev. Co.
26- 9-69 Benson & Mitchell 1.
30- 9-68 NW, Farrell et al.
5- 9-68 NE, Union Junior Oil Co.
10- 3-44 SW, Hesnick Drilling Co.
36-10-69 State, Seneca Oil Co.
13- 6-86 SE, Panuco Exploration Co.
10-10-61 SE, Daugherty et al 1.
22- 4-92 Parkinson, Midwest Refg. Co.
18- 6-86 Dennis, Texas Prod. 1.
13- 1-46 NW, Yuma Oil Co.
Wells Drilling
8- 9-69 Warren, Union Oil of Colorado.
6- 7-68 Brown, Fifty-Four Oil Co.
3-35-58 Las Animas Synd. 1.
22- 7-103 Ingram, Marland Oil Co.
18- 7-86 Babcock, Texas Prod. Co.
13-33-13 Hall-Murray Co.
5- 8-103 Gypsy Oil Co.
24- 8-69 Evans, Union Oil of California.
34- 5-95 Morgan, Union Oil of California.
4- 6-68 Webster, Douglas Oil Co.
10-24-69 Panuco Exploration Co.
28- 3-64 Watkins, Miller Oil Co.
24- 4-92 Franch, Midwest Refg. Co.
17- 5-64 Hog Ranch, Roland Oil Co.
5- 6-68 Majestic Oil Co.
4-32-67 Tulsa Oil Leasing Co.
34- 8-68 Ruff, Victory Oil Co.
9-12-68 Panuco Exploration Co.
4-46-16 Leidecker Pet. Corp.
1- 9-68 NW, Great Northern Oil Co.
25- 1-69 Everhard, Boulder Oil Corp.
30-27-45 NW, Lamar Oil Co.
30-10-68 Leroy, Wyoming Illinois Pet.
1- 6-65 Degan, A. A. Rollestone Oil Co.
6-10-69 NE, San Carlos Oil Co.
21- 3-61 Clark, Marland Oil Co.
4- 6-68 Webster, Associated Oil Co.
6- 8-102 Lidguist, Midwest Refg. Co.
36- 7-103 Smith, Midwest Refg. Co.
30- 2-102 Texas Prod. Co.
14- 1-66 Smith, Retter Oil Co.
34-17-70 Mutual Oil Dev. Co.
12- 9-79 McCallum Continental Oil Co.
4-20-69 Templeton, Continental Oil Co.
19- 6-68 Bank, Texas Prod. Co.
9-91-101 Maire, Gypsy Oil Co.
16-21-65 Columbus Heights Oil Co.
9-17-67 John FR. Red Creek Oil Co.
17-16-65 Wilson, Ohio Oil Co. 1.
30-10-68 Foster, Union Oil of California.
24- 2-103 Rigby, Midwest Oil Co. 1.
36-10-69 State, Union of Calif.
Fremont Co., Parkdale Oil & Gas.
8- 9-91 Moebael, Thornburg.
17-17-64 Christy Oil Co.
31-10-68 Messerschmidt, Union of Calif.
30- 8-68 Plummer, Union of Calif.
31-10-68 Buckeye, Union Oil 4 and 3.
32-10-68 Hess, Union of Calif.
7- 9-68 Gault-Platt, Union of Calif.
7- 9-68 North Poudre, Union of Calif.
17-16-66 Wilson, Ohio Oil Co. 1.
28-28-52 SE, Colorado Oil Co. 1.
22- 4-92 Packinsm, Midwest Oil 3.
28-20-69 Travis-Raddat Syndicate 4.
16- 4-91 Pohlman, Texas Prod. Co. 1.
18- 6-86 Tow Creek, Texas Prod Co. 2.
21-20-69 Snyder, Continental Oil Co. 1.
27-20-69 Good Luck Oil Co.
1- 5-65 Degin, Rollestone Co.
9- 9-101 Maire, Gypsy Oil Co. 1.
5- 8-103 Gypsy Oil Co.
1- 8-69 Warral, Cons. Oil Fields.
Las Animas Co. Mt. States Oil Co.
18- 9-68 Elder, Union Oil Co.
10- 4-91 Wick, Texas Prod. Co. 2, 3, 4.
10- 4-91 Knowlton, Texas Prod. Co. 6 and 7
26- 7-92 NE, Boyles Oil Co.
2- 8-97 Reeder, Glen Falls Oil Co.
16-20-69 Continental Oil Co. 571.
31-18-51 Mineral Exploration Co.
16-20-69 E. R. Goode et al 1 and 2.
Shut Down
32-20-63 Baxter, Salida Oil & Refg. 2.
17- 2- 8 NW, Carter Oil Co.
36- 9-69 NE, Atlantic Pet. Co.
31- 9-26 NW, White River Dev. Co.
22-21-100 Wm. Morris et al.
30- 2-102 SE, Midwest Refg. Co.
8- 8-102 Smith, Sun Oil Co.
13- 8-68 Hoff, Centennial & Sunset.
28- 5-91 Freeman, Texas Prod. Co.
32- 5-91 Hamilton, Texas Prod. Co.
25-24-61 SW, Utah Southern Oil.
16-21-66 Union Oil of Colorado.
28-28-32 Associated Oil of Colorado.
28-27- Gehrung, Sand Hill Oil Co.
32-21-61 Colorado Oil Co.
23- 6-69 Ruckvetter, Wellington Oil Co.
19- 6-69 Alps, Gateway Oil Co.
22- 9-69 Waverly, Consolidated Oil Fields.
32-10-68 SE, Imperial Oil Co.
25- 8-68 N7, American Pet. Corp.
18-20-46 Ne-No-Shee Oil Co.
13- 1-46 Yuma 2, Hessick Drilling Co.
19 9-68 Harwood, Great Northern Oil Co.
11 1-44 Hildrith, Hessick Drilling Co.
24- 9-69 Hanna, Wellington Oil Co.
6- 7-68 NE, Bonner Oil Co.
17-17-64 NW, Peerless Oil Corp.
30- 4-68 NW, Panuco Exploration Co.
4-45-16 NW, Gilmore Oil Co.
Rigs, 18; wells drilling, 107; total, 125.
UTAH
Rigs
18-23-21 Metropole Oil Co.
4-22-19 Crescent Dome Pet.
Wells Drilling
19-22-21 Utah Oil & Refg. Co.
35-40-90 Utah Oil & Refg. Co. 2.
11-43-10 Utah Oil & Refg. Co. 3.
Roselle District, Lakeside Oil Co.
16- 2- 5 State, Western Empire Oil 1.
32-42-17 Monroe Oil Co.
Diamond Fork, Gustaven Oil Co.
31-32-18 Union Oil of Utah.
27-14-19 Glockner, Utah Southern Oil.
4-18-28 New York State Oil Co.
23- 6-22 Utah Oil & Refg. Co.
35-21-16 Culbertson, Marland Oil Co.
7-21-19 SW, Standberg Pet. Co.
Grand County, Radats Syndicate.
23- 3-24 Clay Basin, Prod. & Refg. 2.
12-19-13 Utah Oil & Refg. Co.
17-27-20 Shaffer, Midwest Utah Southern 2
23-14-95 Mt. States Pet. Co.
Shut Down
6-14-13 San Juan Dev. Co.
23-42-17 Monumental Oil Co.
12-19-13 Ute Pet. & Utah Southern.
13- 4- 6 Castle, Dale Oil Co.
27-16- 4 Producers Oil Co.

Lakeside Dome, W. R. Holmes.
Diamond Fork, Franko Utah Oil.
25-13-13 Utah Central Oil Co.
34-25-21 NW, Bix Six Oil Co.
4-22-10 SE, Crescent Eagle Oil Co.
Diamond Fork, Franko Utah Oil.
25-13-13 Utah Central Oil Co.
34-25-21 NW, Big Six Oil Co.
4-22-10 SE, Crescent Eagle Oil Co.
Rigs, 2; wells drilling, 32; total, 34.

NEW MEXICO

Rigs

19-36-34 SW, Sinclair & Fenton.
15-21-33 NW, Covert et al.
19-16-34 SW, Crescent Eagle Oil 1.
17-31- 8 Huntington Park Oil.
36-12- W. H. Graham.
18-18-28 SW, Danciger-Beeson 2.
33-18-28 NW, Snowden-McSweeney 4.
3-18-28 SW, Levers & Carper 3.
29-17-18 Hagan, Texas Prod. Co. 1.
10- 4-28 NW, Oliver Well 1.
8-18-28 NE, Texas Prod Co. 5.

Wells Drilling

17-18-28 SW, Cummins 3.
21-18-28 SW, Cheesman et al.
4-18-23 SE, Pueblo Oil Co. 4.
15-19-25 SE, Effenhauser et al.
14-15-17 NW, Arkansas Fuel Co.
20-29-11 NE, West Coast Gaso. Co.
6- 4-20 Woods-Eddeman.
7-16- 1 Kaseman, Albu Natural Gas Co.
30- 3- 9 NE, Arkansas Fuel Co.
4-21-27 Olson, M. M. Miller.
15-29-11 Bloomfield Oil & Gas Co. 6.
9-30-10 Lexi Oil Co.
15-23-24 California Co.
3-12-29 Bell, Mariand Oil Co.
24- 8-23 SE, Lewis et al.
30 4- 9 NE, Red Feather Oil Co. 1.
25-24- 1 Continental Oil Co. 2.
16-29-11 SE, C. S. Ringle.
34-29-11 C. S. Ringle.
4-21-30 SW, Van Cleve & Kronen 2, 3.
9-13-34 McGee, Olean Oil Co. 1.
24-10-27 NW, R. C. Christman 1.
23-18-11 Pan-Mex. Dumas 1.
24-31-15 W. R. Chelders.
8- 2-14 Simmons et al.
10- 3-17 Transport Oil Co.
17-18-28 NW, W. G. Hurst.
9-10-28 SW, Danciger Bros.
3-18-28 SW, Levers & Carper 2.
33-17-30 SW, Wooley-Jones.
27-10-26 NE, New State Pet. Co.
2- 6-25 NW, Spaulding Dome Syndicate.
1-17- 9 Welch et al.
3-31- 2 Williams et al.
21-17-32 NE, Maljamar Oil & Gas Co.
11-16-32 SE, New Mexico Prod. Co.
15-29-11 Butler-Stonacher Synd.
7-13-10 NW, Wood et al.
19-21-19 NE, P. A. Black Drilling Co.
14-22-10 Marine Oil of Calif.
25-17-16 Patterson & Stumpi.
11-18-29 Dunn Flynn, Welch & Yates 2.
15-15-29 Southern Exploration Co. 1.
4-18-28 New State, Ohio Oil Co. 9 and 10.
28-18-28 Allen-Toomey, Ohio Oil Co. 6.
4-18-28 SE, Fite No. 1.
5-18-28 SE, Texas Prod. Co. 4.
31-24-27 SE, Empire Gas & Fuel Co.
8-16-27 Campbell, Colo. Gas & Fuel Co.
25-11-26 SW, N. Jones.
7-18- 1 La Veutana Oil Co.
8-18-28 New State, Ohio Oil 1o.
5-18-28 Marion, Ohio Oil Co.
18-18-29 Edgerton, Ohio Oil 1.
5-17-28 SE, New Mexico Oil Co. 1.
22-19-27 NW, Valley Oil Corp. 1.
8-16-27 SE, Colorado Drlg. Co. 1.
8-31-21 NE, Owens Albuquerque 1.
8- 6 1 NW, Chaves Pet. Co. 1.
2-29-19 Continental Oil 17.
3-27-17 Continental Oil 4.
5- 8-23 Peerless Oil Co.
21-18-28 SE, Illinois Prod. 30.
28-18-28 NE, Illinois Prod. 32.
28-18-28 SE, Illinois Prod. 39.
29-18-28 SE, Illinois Prod. 40.
21-18-28 Tyes, Illinois Prod. 2 and 3.
21-18-28 NE, Dome Oil Co. 4 and 5.
4-19-28 NW, Mesa Oil Co. 1.
18-18-28 SE, Danciger-Beeson.
28-18-28 Maljamar O. & G. 15 and 16.
20-18-28 SW, Shaw -Rathke.
28-18-28 SW, Twin Lakes 7.
9-18-28 NE, Sidler Drilling Co. 1.
1- 6-27 SW, Steel -Rheinsmith.
9- 6-34 Grady Oil Co.
11- 5-35 Prio Oil Co.
4- 2-20 Hinkle et al.
14-13-14 State Cons. O. Co.
9-29-11 Bruce Bragle.
24-30-13 SW, Portage Oil & Gas Synd.
21-18-28 SE, Flynn, Welch & Yates 30.
21-18-28 SE, Flynn, Welch & Yates 39.
21-18-28 Keyes, Flynn, Welch & Yates 40.
21-18-28 SE, Flynn, Welch & Yates 41.
5-18-27 Brainard, Swartz, Compton, Eaton
23-16-29 Young, Ohio Oil Co.

Shut Down

34-14-14 SW, Meadow Oil Co.
3-13-15 SW, Santa Fe Oil Co.
36-11-27 SW, Buffalo Roswell.
31- 3-15 NW, Wyo-Colo. Oil Co.
22-18-27 State, Oscar Howard.
24-29-11 Hubbell & Hall.
21-30-11 Home Gas Co.
2-19-26 Peckenbaugh, Eureka Oil Co.
1- 2-32 NE, Gurley Oil Co.
24-21-11 SE, Agua Mining Association.
21-14-15 SE, Blackstone Champion.
30-13-10 SW, Wood et al.
6-29- 9 Detroit Oil Corp.
10-29-24 NW, Eureka Oil Co.
19-20-30 NE, W. C. Wells & Son.
29-29-11 Montesuma Syndicate.
27-10-21 C. A. Rose.
27-11-24 J. D. Ward.
14-16-32 Cass-Elliott.
18-25-35 Holmes & Huey.
12-29-13 SW, Ship Rock Oil Co.
9-30- 9 Rainbow Oil Co.
36-20-30 Yates, Keyes et al.
11-16-27 SE, Keyes et al.
18- 2-27 SE, Blue Bird Oil Co.
3-22-26 NE, Blue Bird Oil Co. 2.
16-13- 9 Meistead 2.
8-22- 1 Black, Albuquerque.
25-39-12 NE, Hall et al.
25-13-31 SE, Standard Pet. Co.
11-20-29 Rawson, William Dooley.
30-14- 9 SE, Union United Oil Co.
26-18-18 New Mexico Oil Co. 2.
25- 7- 2 Swisher & Wallace.
31-19-28 Johnson, Ohio Oil Co. 1.
30-28-11 New Mexico, Milwaukee Synd.
23-18-15 NE, E. M. Treat & Co. 1.
18-17-28 SE, Bobb et al 1.
27-18-28 SE, Quillin & Dunnett, 1.
15-12-23 NW, Zeppenfield Co. 1.
25-14-26 NE, Shaffer Oil Co.
16- 1- 7 NE, Fort Sumner Oil Co. 1.
32- 7-10 SE, California Exploration Co. 1.
11-19-21 NE, Arkansas Fuel Co.
33-11-35 Tilton & Croft.
Rigs, 11; wells drilling, 138; total, 149.

WYOMING

Wells Completed

3-33-76 Barber, W. C. Mentzer 50
24-40-79 SW, Wyoming Oil Fields 20 60
25-40-79 NW, Wyoming Oil Fields 30 75
25-40-79 NW, Wyoming All Fields 14.. 50
35-40-79 NW, Wyoming Asso. 2-IX 435
26-40-79 SE, Wyoming Asso. 31-L ..3000
26-40-79 NW, Wyoming Asso. 31..... 100
23-40-79 NE, Wyoming Asso. 35 40
35-40-79 SE, Wyoming Asso. 32 60
25-40-79 SW, Wyoming Asso. 34 178
26-40-79 SW, Wyoming Asso. 25 300
35-40-79 SE, Wyoming Asso. 20 50
35-40-79 SE, Wyoming Asso. 15 450
23-40-79 SW, Wyoming Asso. 34 100
23-40-79 SW, Wyoming Asso. 32 50
23-40-79 SE, Wyoming Asso. 3-L 6000
27-40-79 SE, Midwest Oil Co. 12 50
26-40-79 SW, Midwest Oil Co. 2 55
35-40-79 NW, Wyoming Asso. 28-A 65
24-40-79 NW, Wyoming Asso. 27 45
24-40-79 NW, Midwest Oil Co. 7 50
11-40-79 SW, Midwest Oil Co. 14-A .. 35
35-40-79 NW, Wyoming Asso. 1-L 3200
26-40-79 NW, Wyoming Asso. 31-L.... 275
23-40-79 SE, Wyoming Asso. 13-L 200
35-40-79 NW, Wyoming Asso. 14 50
34-40-79 SE, Wyoming Asso. 14 60
26-40-79 SE, Wyoming Asso. 20 25
26-40-79 SE, Wyoming Asso. 22 20
24-40-79 NW, Wyoming Asso. 31-A 40
31-40-78 SW, Salt Creek Cons. 22-A .. 50
32-39-78 Texas Prod. 32-A 30
19-46-48 Meetsee, Midwest Refg. Co. 16-A 100
31-43-90 Utah Oil Refg. Co. 3 300
34-43-94 SE, British Asso. Oil Co. .. 75
11-26-90 Prairie Oil & Gas 49-A..... 400
36-26-88 Producers & Refgs. ..... gas
26-20-88 Producers & Refgs. 1..... dry
20-21-80 Producers & Refgs. 13..... dry
3-19-78 H. & C., Ohio Oil Co. 3 750
16- 6- 2 SW, Union Oil Co. 11 500
15- 6- 2 SE, Union Oil Co. 12 195
20-37-80 Wyland, Texas Prod. Co. .... dry

Wells completed 48
Production 17,008
Dry 3
Gas 1
Gas production 16,000,000

MONTANA

Wells Completed

21-35- 1 White, Ohio Oil Co. 2 ..... dry
30-35- 1 Maughan, Ohio Oil Co. 8 45
25-35- 2 Byrne, Treasurer State 3 7
9-35- 2 Howling, Mid Northern Oil 7 75
36-35- 2 State, Kevin-Washington 2 .. gas
35-35- 2 Abel, Ferdig Sunburst 4 .... gas
36-35- 2 Homestake Exploration 6.. 850
25-35- 2 Byrne, Treasurer State 4 100
36-35- 2 State, Homestake Exploration 4 3000
21-14-28 NE, Blackhawk Oil Co. ..... dry
9-12-14 Wilder, Glenhoim Oil Co. 2.. dry
27- 3-24 SE, Murray Bros. 2 ..... dry
25-16-25 Gordon Campbell ..... dry

Wells completed 9
Production 4077
Dry 5
Gas 2
Gas production 4,000,000

COLORADO

Wells Completed

4-16-17 Cinco Minas Oil Co. ..... dry
30- 8-68 Whitaker-Blunk, Union Oil Co. 390
33- 8-68 Chandler, Penn.-Colorado Oil dry
4-20-69 Continental Oil Co. 570 40
4- 6-59 Trader Oil Co. ..... dry

Wells completed 5
Production 430
Dry 3

NEW MEXICO

Wells Completed

34-21-26 Tracy, Ohio Oil Co. ..... dry
4-18-28 New State, Ohio Oil Co. 8 40
16-18-28 Keiser, Ohio Oil Co. ..... dry
3-18-28 Illinois Prod. 33 50
9-18-28 Illinois Prod. 35 50
3-18-28 Illinois Prod. 38 35
4-18-28 SW, Frontier Oil Co. 11 40
16-18-28 SW, Compton Bros. 2 ..... dry
18-18-28 State, Holman & Sparks 25
18-18-28 SE, Kersey & Conrad 2 100
17-18-28 NW, Williams Oil Co. 4 55
27-16-28 SE, Braden Oil Co. 2 ..... dry
16-15-29 NE, Pet. Explor. Co. ..... dry
30-10-26 NE, Shaffer Oil & Gas ..... dry
13-31- 1 Gracia, Paul S. Ache et al.. dry
2-28-19 Navajo, Continental Oil Co. 14 75
3-27-17 Continental Oil Co. 5..... 175
21-18-28 Keyes, Flynn, Welch & Yates 2 150
9-18-28 Schramm, Valley Dev. Co. .. 60
23-31-18 Bartlett, Union of Calif. .... dry
14-29-11 Hare, E. J. Miley 5
17-18-28 V. K. F. Oil Co. 7..... 50
Wells completed 22
Production 910
Dry 8

EASTERN FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	16	37	0	0
Bradford	63	167	1	0
Middle Field	7	14	0	0
Venango-Clarion	22	22	1	3
Butler-Armstrong	11	38	5	1
Southwest Pennsylvania	11	0	4	7
West Virginia	87	524	12	45
Southeast Ohio	70	1,652	12	11
Total March	289	2,455	36	67
Total Feb.	294	2,242	44	74
Difference	5	213	8	7

Summary of New Work

Fields—	Rigs	Drg.	Ttl.
Allegany	6	17	23
Bradford	24	75	99
Middle Field	0	3	3
Venango-Clarion	4	12	16
Butler-Armstrong	7	16	23
Southwest Pennsylvania	11	28	39
West Virginia	57	134	191
Southeast Ohio	35	57	92
Total March 31	144	342	486
Total Feb. 28	122	341	463
Difference	22	1	23

WELLS COMPLETED
ALLEGANY FIELD

Fanton, E. M. Ketchner 1
Fee, State Bank of Bolivar Nos. 26-29.. 2
Reid, agent, Citizens Nat. Bank Wvs. No. 46 et al 4
Maitland, Citizens Nat. Bank No. 61, Maitland 1
Fee, Phillips & Howard 4
Fee, C. D. Henline et al 1
Fee, C. D. Henline et al 1
Fee, Cora Townsend 1
Fee, C. C. Brennan et al 1
Fee, C. C. Brennan et al ..... wtr
Coast, M. J. Crowley et al 1
Coast, M. J. Crowley et al 3
Fee, Sadie Sawyer 2
Fee, Homestead Oil, Inc. 2
Fee, Gilligan & McDermott 5
Fee, Mrs. G. F. Richardson et al 2
Fee, C. H. Lavens et al 5
Cass, W. B. Davidson et al 1

Wells completed 18
Production 37

BRADFORD FIELD

Bingham, J. L. Yerdon 3
Hodge, South Penn Oil 2
Sill, Hope Oil 2
Pratt, Petroleum Reclamation 3
Pratt, Petroleum Reclamation 2
Pratt, Petroleum Reclamation 2
Ekas, R. C. Lloyd 2
Whipple, South Penn Oil 1
Enterprise, South Penn Oil 2
Garlock, Denwood Oil 2
Taylor, M. E. Jones 1
Bingham, W. S. Jones & Son 2
Rew, Wolfe Leech & Co. 1
Corwin, C. H. Corwin 2
Monroe, Devore et al 1
Bingham, Barry Bros. 2
Fair, J. H. Gibson 1
Taylor, South Penn Oil 1
Bingham, D. W. Daly 2
Willett, J. W. Looker 2
Germer, Linwood Oil 2
Duke, Gridiron Oil 3
Duke, Gridiron Oil 5
Morse, J. Minnich 2
Borden, T. B. Wilson 2
Hanes, Coast & Storms 2
Keller, Hifler & Sprague 1
Middaugh, J. B. Randall 2
Borden, Tapp & Wingrove 1
Burns, Arthur Yahn 2
Baldwin, C. B. Kervin 2
Baldwin, Forest Oil 2
Franks, Forest Oil 2
Mott, Reclamation Oil 2
Mott, Reclamation Oil 2
Gelpin, Simpson, Cooper et al 2
Sprague, S. J. Sprague ..... dry
Canan, P. L. Golden et al 44 2
Quintuple, P. L. Golden et al 58 2
Bing. 374, Wright & Burdick 5 1
Bing. 326, Andrus & McDowell 69 1
Lawton, Gallup, Elder et al 24 2
South Penn Oil, Wright et al 17 2
Bing. 500, Daly & Healy 27 1
Bing. 540, Park & Bovaird 34 1
Bing. 490, T. H. Kennedy No. 2, 137.... 2
Riddell Estate, South Penn Oil 50 5
Rounds & Lawrence, South Penn Oil 51 30
Fee, Stover & Hannon 7 8
Franchot, Hoeker & McKay 5 1
Fee, Hazelwood Oil 5 1
Fee, T. H. Kennedy 37 3
Fee, L. G. Dana 4
Fee, Mrs. Joseph T. Jones 1
Bing. Hazelwood Oil 40 4
Fee, Kaber & Kaber 36 1
Bing. 370, Hazelwood Oil 16 5
Bing. 554, South Penn Oil 47 8
Bing. 439, South Penn Oil 92 5
Bing. 494, South Penn Oil 47 6
Bing. 439, South Penn Oil 94 1
Bing. 568, Associated Producers 368.... 4
Bing. 589, Associated Producers 369.... 1

Wells completed 63
Production 167
Dry 1

MIDDLE FIELD

Harman, T. Bean 1
Samuelson, Frost Bros. 1
Irvin, D. Wade 1
Osgood, Rembold & Co. 11 2
Lot 3767, F. J. Moser 29 1
Lot 436, L. Epstein 41 5
Lot 7, J. C. Cochran 50 3

Wells completed 7
Production 14

VENANGO-CLARION

Porter, B. A. Porter 20 1
Nuhfer, Dempseytown Gas 1 ..... gas
Knight, Dempseytown Gas 4 ..... gas
Buchner, Alum Rock Gas 9 1
Splane & Co., W. W. Splane 31 1
Murphy, Taylor & Torrey, L. J. Kirkwood 20 2
McCandless, A. T. Straub 52 1
Kern, C. B. Kern 14 1
Beers, Rynd & Moyer 1
Ferringer, Citizens Banking 8 1
Graham, Exchange Bank of Franklin and Kennedy 36 1
Grove, H. C. Graham 11 1
Sloan, Hoffman & Son 14 1
Jacobs, S. P. McCalmont Est. 15 1
McKee, L. E. Riddle & Co. 1 1
Donaldson, Donaldson, McDowell et al 3 2
Clarion—
Powers, A. E. Kaber 1 ..... gas
Beichner, Alum Rock Gas 7 1
O'Neill Bros., D. & H. O'Neill 6 4
Lander, Wm. Lander et al 1 ..... dry
Exley, Master & Hess 3 1
Gibbs, White & McDowell 17 1

Wells completed 22
Production 23
Dry 1
Gas 3

BUTLER-ARMSTRONG

McGarvey Sherwin, Burns et al 2 ... gas
Logan, Saxonburg L. & H. 1 ..... dry
Montag, Montag & Co. 1 20
Delaney, Delaney Bros. 1 ..... dry
Swartzlander, H. L. Swartzlander 1 ... 5
Rankin, Benton, Rankin & Co. 1 1
McBride, McBride & Wick 2 8
Hockenberry, Ingold & Ruby ..... dry
Gochring, Wm. Pfeifer & Co. 4 ..... dry
Gochring, J. A. Elliott 4 ..... dry
Lava Crucible Co., Lava Crucible Co. 1. dry

Wells completed 11
Production 38
Dry 5
Gas 1

ALLEGANY FIELD

Rigs

Fee, Empire Gas & Fuel, Ltd.
Fee, Phillips & Howard.
Fee, Phillips & Howard.
Fee, Citizens Nat. Bank Wvs. No. 62.
Coast et al., M. J. Crowley et al.
Perkins, W. H. Lobaugh, tr.

Wells Drilling

Stevens, National Oil & Gas.
Fee, Empire Gas & Fuel, Ltd.
Cleveland, S. J. Cleveland et al.
Reid, agent, C. O. & W. O. Taylor.
Fee, Phillips & Howard.
Fee, Empire Gas & Fuel, Ltd.
Fee, C. D. Henline et al.
Fee, F. L. Williams.
Fee. Cora Townsend.
Fee, C. B. Brennan et al.
Fee, C. B. Brennan et al.
McDermott, Wilbart Oil.
Coast, F. C. Shaner et al.
Fee, Mrs. G. F. Richardson et al.
Childs, Neal K Wilson.
Fee, Martin Bros. & Wasson.
Fee, F. W. Forness, Jr.
Rigs, 6; wells drilling, 17; total, 23.

BRADFORD FIELD

Rigs

Wright, S. H. Elder & Co.
Meldrum, Stephan & Tapp.
Canan, P. L. Golden et al.
Bing, 490, T. H. Kennedy No. 2, 138.
South Penn Oil, Wright et al 18.
Vincent heirs, S. H. Elder et al 16.
Moore, Moore & Moody 10.
Windsor, Wilson & Co. 12.
Rounds & Lawrence, South Penn Oil 52.
Burns et al., Bliss Oil 30.
Fee, Dana & Dana 41.
Fee, South Penn Oil.
Fee, Mrs. Joseph T. Jones.
Bing, 150, South Penn Oil 65.
Fee, W. C. Kennedy Co. 52.
Fee, Hilliard & Dodge 19.
Bing, 159, South Penn Oil 12.
Associated Producers, Holding Oil Corp. 21.
Bing, 440, Hazelwood Oil and South Penn Oil 14.
Bing, 482, South Penn Oil 24.
Bing, 408, South Penn Oil 15.
Bing, 425, Grant & Mohan 9.
Bing, 494, South Penn Oil 49, 50.

Wells Drilling

Bing, 500, Daly & Healy 28.
Bing, Park & Bovaird 35.
Redfield, South Penn Oil 104.
Riddell Estate, South Penn Oil 51.
Fee, W. E. Williams 19.
Fee, Stover & Hannon 8.
Fee, T. H. Givan 12.
Fee, Ida & W. W. Sike 8.
Franchot, Hooker & McKay 6.
Fee, L. G. Dana 18.
Fee, Hazelwood Oil 6.
Fee, Howard Wile 13.
Fee, T. H. Kennedy 16.
Franchot, John Jackson 18.
Fee, J. A. Walters Estate 38.
Quintuple Oil, Mrs. Elizabeth Gildersleeve.
Bing, Hazelwood Oil 118.
Bing, 156, South Penn Oil 64.
Fee, South Penn Oil 40.
Fee, South Penn Oil 33.
Bing, Hazelwood Oil 116.
Fee, Willoughby & Commercial Nat. Bk. 8.
Fee, South Penn Oil 100.
Fee, Roy E. Dalment 13.
Kinzua fee, South Penn Oil 185.
Bing, 399, South Penn Oil.
Bouton & VanScoy, J. W. Bouton, 2.
Bing, 370, Hazelwood Oil 68.
Bing, 410, South Penn Oil 36.
Bing, 481, South Penn Oil 23.
Bing, 499, South Penn Oil 48.
Bing, 533, South Penn Oil 84.
Bing, 570, South Penn Oil 109.
Bing, 589, Associated Producers 364.
Bing, 593, P. A. Oakes & Sons 23.
Fidler, S. H. Elder & Co.
Bingham, Paul Evans et al.
Hodge, South Penn Oil.
Sill, Hope Oil (2 wells).
Pratt, Petroleum Reclamation (2 wells).
Ekas, R. C. Lloyd (2 wells.)
Whipple, South Penn Oil.
Enterprise, South Penn Oil.
Taylor, M. E. Jones.
Bingham, W. S. Jones & Son.
Monroe, Devore et al.
Willett, 1. Willett heirs.
Germer, Linwood Oil.
Boyd, Whitehead & Carson.
Rew, Lincoln & Brink.
Fee, H. S. Hausman.
George, Nesselson Bros.
Nolan, C. Nolan.
Quintuple, P. L. Golden et al.
Borden, W. B. Miller.
Duke, Gridiron Oil (2 wells).
Hanes, Coast & Storms.
Borden, T. P. Thompson.
Keller, Hifler & Sprague.
Doubleday, Pressure Oil.
Burns, Burns Bros.
Burns, Arthur Yahn.
Baldwin, C. B. Kervin.
Baldwin, Forest Oil.
Schenfield, W. J. Fredericks.
Mott, Reclamation Oil (2 wells).
Kervin, Minnich Bros.
Gelpin, Simpson, Cooper et al.
Emerison, G. V. Rhodes et al.
Rigs, 24; wells drilling, 75; total, 99.

MIDDLE FIELD

Wells Drilling

Irvin, D. Wade.
Uif, Fidelity Petroleum 1.
Lot 397, B. Hughes 5.
Rigs, 0; wells drilling, 3; total, 3.

VENANGO-CLARION

Rigs

Hoffman, Hoffman and Exchange Bank & Trust 14.
Murphy, Taylor & Torrey, L. J. Kirkwood 21
McKee, C. L. Irwin 39.
Clarion—
Knappenberger, Knappenberger, Thomas et al 2.

Wells Drilling

McMullen, B. Turner & Sons 7.
Frazier, Erie Oil & Gas 3.
Crawford & Gregory, Oil Well Supply 110.
Plumer, Eakin & Hutchinson 44.
Clarion—
Cohlkeep, S. R. Lewis et al 2.
Ochs, Alum Rock Gas 1.
Beichner P. Beichner 1.
Whiting, Whiting & Sons 2.
Kribbs, Wentling, Kribbs et al 3.
Rowe, Fry, Carroll & Hugus 4.
Agnew, Agnew & Co. 1.

Gribel, Samuel Gribel 2.
Rigs, 4; wells drilling, 12; total, 16.

BUTLER-ARMSTRONG
Rigs
Boggs heirs, R. C. & W. V. Binkerd.
Cochrane, Saxonburg, L. & H. 1.
Marshall heirs, Marshall, Thompson et al 2.
Dulity, Boyle, Little & Co. 1.
Bruner, Rabbitt & Hilderbrand 2.
Harday, Harmonite Oil 1.
McKinney, C. J. Murtland et al 1.
Wells Drilling
Campbell, M. W. Graham et al 7.
Thompson, Sherwin & Burns 2.
Bortz, Dufford & Co. 1.
Hunter, Gettman & Co. 1.
Lachenmayr, Reiger & Co. 3.
Criner, Joseph Berry et al 1.
Bachman, Keck & Co. 1.
Wylie, Saxonburg L. & H. 1.
Shaner & Beilstein, Shaner & Co. 3.
Gibson, Fennell & McGarvey 1.
Pfeister, C. A. Horton et al 1.
Cox, Lang & Co. 1.
Denny, Denny & Co. 1.
Kramer, Southern Oil 4.
Davidson, Prospect Co. 1.
Orphans Home, Dambaugh & Eichholtz 1.
Rigs, 7; wells drilling, 16; total, 23.

WEST VIRGINIA

Wells Completed

LEWIS COUNTY
Ramsey, Cobuin O. & G. Co. 1 ..... dry
Linger, Pgh. & W. Va. Gas Co. 1 ..... gas

HARRISON COUNTY
Reed, Reserve Gas Co. 1 ..... gas

MARION COUNTY
Wise, Owens B. & M. Co. 1 ..... gas
Tennant, So. P. O. Co. 4 10

WETZEL AND TYLER COUNTIES
Little, Johns Gas Co. 3 5
Renner heirs, Mfg. L. & H. Co. 2 ..... gas
Renner heirs, Mfrs. L. & H. Co. 3 ..... gas
Williamson-Anderson, Buffalo Oil Co. 1 5
Long, Hope Gas Co. 3 ..... dry
Smith, Boundy Bros. 1 3

MARSHALL COUNTY
Evans, Decem Dev. Co. 4 ..... gas
Parriott, W. A. Evans & Co. 1 ..... dry
Reilly heirs, W. & C. Oil Co. 2 ..... dry
McConaughey, Mfrs. L. & H. Co. 3 .... gas

DODDRIDGE COUNTY
Yeater, Hope C. & R. Co. 1 ..... gas
Pearcey heirs, Trainer & Travis 1 3
Markel, Mfrs. L. & H. Co. 1 ..... dry
Heffiin, C. H. Pigott 3 25

RITCHIE COUNTY
Zinn, Pgh. & W. Va. Gas Co. 2 ..... gas
Sheets, Pgh. & W. Va. Gas Co. 2 ..... gas
Ehret, Hope C. & R. Co. 2 ..... gas
Flesher, Hope C. & R. Co. 1 ..... gas
Batson, Carnegie Gas Co. 1 ..... dry
W. Va. Tract, Williams & Co. 31..... 2
Stursburg Realty Co., Astron Oil Co. 1. 3
Newbrough, Big Four Drilling Co. 1... 40
Mitchell, Rinehart & Co. 1 180
Jamison, So. P. O. Co. 1 ..... gas
Ingram, Arnold Adams 1 ..... gas
Maxwell, Lucky Day O. & G. Co. 1 .... gas
Conaway-Patton, Mellon Bros. 5 5
Turner, So. P. O. Co. 3 1
L. J. Turner, So. P. O. Co. 3 10
Fleming, F. J. Gillespie 1 ..... dry

GILMER COUNTY
Fuelton, Pgh. & W. Va. Gas Co. 1 .... gas
Stalnaker, Philadelphia Oil Co. 2 50

WOOD COUNTY
Lauer, Hoaglan Oil Co. 5 ..... dry
Curtis, Quick Davis Oil Co. 1 5
Grant heirs, So. P. O. Co. 3 ..... dry
Ewing heirs, Jonas & Parks 2 0
Lenhart, Four S. Oil Co. 1 10

PLEASANTS COUNTY
Brown, Dinsmoor & Son 3 ..... dry
Ross, Aetna O. & G. Co. 14 5
Ambler, Bailey Gas Co. 5 1
Eddy, Walnut Run Oil Co. 1 ..... gas

ROANE COUNTY
Caldwell, Columbia Carbon Co. 2 ..... gas
Smith, Central Oil & Gas Co. 1 ..... dry
Fields, Green Creek O. & G. Co. 2 .... dry
Conley, Heck Oil Co. 2 8
Morford, Heck Oil Co. 1 ..... gas

CALHOUN COUNTY
Husk, Hope Gas Co. 1 1
Ball, L. & Carroll 2 ..... gas
Board, Euclid & G. Co. 2 ..... gas
James, Hope Gas Co. 1 ..... gas
Watton heirs, Chartiers Oil Co. 5 ..... gas
Scott, G. L. Cabot 2 ..... gas
Stump, Mayfield & Co. 1 ..... gas

CLAY COUNTY
Goshorn-Brown, Virginia G. & O. Co. 2 10
Goshorn-Brown, Virginia G. & O. Co. 4 40
Stockly, So. P. O. Co. 13 30
Pierson, Union G. & G. Co. 1 ..... dry

LINCOLN COUNTY
Nida, C. C. Wolfe 2 ..... gas
Miller, Cambridge Gas Co. 2 ..... gas
Jaynes, Laurel Dev. Co. 3 ..... gas
Morris, A. F. Morris 3 ..... gas
Sweetland, Transylvania Pet. Co. 2.... gas
Nelson, Grant Gas Co. 2 ..... gas
Hudson, C. C. Wolfe 1 ..... gas
McCallister, Cambridge Gas Co. 3 .... gas

KANAWHA COUNTY
Henderson, U. F. G. Co. 1 ..... gas
Hulings-Cobb, U. F. G. Co. 1 ..... gas
Dodd, So. P. O. Co. 1 ..... gas

BOONE COUNTY
L. R. & P. Tract, Pure Oil Co. 23 25
L. R. & P. Tract, Pure Oil Co. 6 ..... gas
Alderson L. & D. Co., G. L. Cabot 1 ... gas

LOGAN COUNTY
Dingess Run C. Co., Wacatock O. & G. Co. 13 ..... gas
McDonald, Wacatock O. & G. Co. 1 ... gas

MINGO COUNTY
Dempsey, Pilgrim O. & G. Co. 1 ..... gas

PUTNAM COUNTY
Griffith, Teays Prod. Co. 1 12
Taylor, Scott Oil Co. 1 20
C. & O. R. R., Keller, Taylor & Co. .. 5

CABELL COUNTY
Ball, Monickel Gas Co. 1 ..... gas
Brown, Monickel Gas Co. 1 ..... gas
Bumgardner, Shipe & Co. 1 ..... gas
Merritt, Shipe & Co. 1 ..... gas

Wells completed	87
Production	524
Dry	13
Gas	45

LEWIS COUNTY
Rigs
Malley, Hope Gas Co. 1.
Hoover, Roy Hoover 1.
Fahey, Mfrs. L. & H. Co. 1.
Wells Drilling
Douglass, Bish & Co. 1.

HARRISON COUNTY
Wells Drilling
Smith Bros., Reserve Gas Co. 1.
Tottro, S. L. Horner 1.
Norman, Grasselli Chem. Co. 1.
Thornberry, Grasselli Chem. Co. 1.
Wilkinson, Grasselli Chem. Co. 1.
Shuttleworth, Grasselli Chem. Co. 1.
Lowndes, R. T. Lowndes 1.
Sommerville, Hope Gas Co. 1.

MARION COUNTY
Wells Drilling
Fleming, Morgantown Oil Co. 1.
Miller, Bell O. & G. Co. 1.
Musgrove, Owens B. & M. Co. 1.
Yost, Owens B. & M. Co. 1.
Fleming, Pleasant O. & G. Co. 1.

MONONGALIA COUNTY
Wells Drilling
Fetty, Red Fox O. & G. Co. 2.
Varner heirs, Dunn Mar O. & G. Co. 4.
Cook heirs, H. L. & C. S. Fulton 2.
Wilson, Carnegie Gas Co. 1.
Fox heirs, So. P. O. Co. 4.

WETZEL AND TYLER COUNTIES
Rigs
Antill, Johns Gas Co. 5.
Riter, Hope Gas Co. 6.
Eddy, McIntyre Bros. Oil Co. 1.
Jackson, Hope C. & R. Co. 1.
Carney, Hope C. & R. Co. 1.
Kimble, L. L. Gorrell 1.
McGinnis, H. L. Lambert 8.
Morgan heirs, Albert Neely 1.
Wells Drilling
Littel, Mfrs. L. & H. Co. 3.
Wade, Carnegie Gas Co. 2.
Mason, Wiser Oil Co. 1.
Balwas, Hope C. & R. Co. 1.
Yeater, Hope C. & R. Co. 1.
Kolzbue, Kolzbue Co. 2.
Hays, Sanders & Co. 1.
Johnston, Mfrs. L. & H. Co. 1.
Lewis heirs, Round Bottom Oil Co. 1.
Milliken heirs, Orndoff & Co. 3.
Himelrick, Hope Gas Co. 3.
Clark, Mfrs. L. & H. Co. 3.
White, Mfrs. L. & H. Co. 1
Miller, Hope Gas Co. 1.
Long, Myers O. & G. Co. 1.

MARSHALL COUNTY
Rigs
Conway, Mfrs. L. & H. Co. 2.
Riter, Mfrs. L. & H. Co. 3.
Keller, Mfrs. L. & H. Co. 6.
Jochum, Spider Oil Co. 1.
Wells Drilling
McCuskey heirs, Waynesburg Gas Co. 1.
Boner, Decem Dev. Co. 7.
Rusia, Hicks O. & G. Co. 1.
Fair, Mfrs. L. & H. Co. 1.
Blake, Mfrs. L. & H. Co. 1.
Evens, Mfrs. L. & H. Co. 1.
Logsden, Hope C. & R. Co. 5.
Yeater, Hope C. & R. Co. 1.
A. D. Fair, Hope C. & R. Co. 1.
Franklin heirs, Burley & Orndoff 1.

DODDRIDGE COUNTY
Rigs
Bates, Trainer & Travis 1.
Smith, Hope C. & R. Co. 2.
Wells Drilling
Farris, R. S. Monroe 4.
Williams, Nay & Kintzer 3.
L. Williams, Hope C. & R. Co. 3.
Duchworth, Phila. Oil Co. 9.
Maxwell, Columbia Carbon Co. 58.
Heflin, Hope C. & R. Co. 2.
McAuley heirs, Hope C. & R. Co. 2.
Underwood, Norbell O. & G. Co. 1.
Freeman, Clifton O. & G. Co. 6.

RITCHIE COUNTY
Rigs
Bee, Hope Gas Co. 2.
W. Va. Tract, Whitwood Oil Co. 27.
W. Va. Tract, Lafayette Oil Co. 21.
Mason, P. H. Donaugh 1.
Crofton heirs, Hope C. & R. Co. 1.
Dawson, Big Four Drilling Co. 1.
Phillips, Hope C. & R. Co. 2.
Conaway-Patton, T. A. & E. P. Mellon 6.
Punty, Cain Run O. & G. Co. 1.
Wells Drilling
Hall, Britton & Co. 1.
Goff heirs, F. J. Davis 1.
Batson, Hope Gas Co. 1.
Smith heirs, Carnegie Gas Co. 2.
Moore, Braden & Co. 1.
Howell, Moore & Co. 1.
Jonas, Coss O. & G. Co. 3.
Atkison, So. P. O. Co. 3.
Jamison, So. P. O. Co. 2.
Adams, Rawe Bros. 3.
Flesher, Davis & Co. 1.
Martin, Hope Gas Co. 1.
Kennedy heirs, Powell & Co. 2.
Maze, American O. Dev. Co. 2.
Lowther, Penn Royal Oil Co. 5.

GILMER COUNTY
Rigs
Tierney, James Tierney 3.
Stump, Hope C. & R. Co. 1.
Moore, Hope C. & R. Co. 1.
Wells Drilling
Hardman, Hope C. & R. Co. 5.
Craddock-Hardman, So. P. Oil Co. 1.
Carson, Pgh. & W. Va. Gas Co. 1.
Janes, Hope C. & R. Co. 1.
Stump, Hope C. & R. Co. 1.
Moore, Hope C. & R. Co. 1.
Farmton, Hope C. & R. Co. 1.

WIRT COUNTY
Wells Drilling
Eagle, J. L. Wilson 7.
Heck heirs, Darby & Co. 1.

WOOD COUNTY
Rigs
Grant heirs, So. P. O. Co. 4.
Susan Grant, So. P. O. Co. 17

PLEASANTS COUNTY
Wells Drilling
McCoy heirs, Big Bend Oil Co. 1.
Racer, B. E. Crippen 3.

ROANE COUNTY
Rigs
Painter, Big Injun O. & G. Co. 1.
Harless, G. L. Cabot 1.
Butcher, G. L. Cabot 1.
Wells Drilling
Smith, Central O. & G. Co. 1.
Summers, So. P. O. Co. 2.
Burroughs, Heck Oil Co. 3.

CALHOUN COUNTY
Rigs
Summers, M. F. Crowley 1.
Thomas, Crowley & Co. 2.
Richards, Chem. O. & G. Co. 1.
Cross, Hope C. & R. Co. 1.
Blake, Hope Gas Co. 1.
Stump, Hope Gas Co. 1.
Sourbourn, Hope Gas Co. 1.
Parsons, Hope Gas Co. 1.
Wells Drilling
Jarvis, Nort & Cain Oil Co. 5.
Offett, Hope C. & R. Co. 1.
Gainer, Hope Gas Co. 1.

MASON COUNTY
Wells Drilling
McMillin, Ohio Fuel Oil Co. 1.

CLAY COUNTY
Rigs
Caston, Virginian G. & O. Co. 11.
Goshron-Brown, Virginian G. & O. Co. 5.
Caston, Ohio P. O. Co. 9.
Stockly, So. P. O. Co. 17.
Stockly, So. P. O. Co. 20.
Kyle, So. P. O. Co. 4.
Belcher, So. P. O. Co. 3.
Samples, Empire Pet. Co. 1.
Wells Drilling
Casto, Virginian G. & O. Co. 11.
Goshorn-Brown, Virginian G. & O. Co. 3.
Casto, Ohio P. O. Co. 8.
Stockley Co., Penn Oil Co. 13, 14, 15, 16, 18, 19.
Kyle, So. Penn Oil Co. 1, 5.
Osborne, Empire Pet. Co. 1.
Cogar, Empire Pet. Co. 2.
Samples, Chalmers O. & G. Co. 2.
Boggs, U. F. G. Co. 1.

LINCOLN COUNTY
Rigs
Adkins, Orlando O. & G. Co. 3.
Bradley & Co., Union G. & O. Co. 1.
Egnor, Col. G. & E. Co. 1.
Lovejoy, Col. G. & E. Co. 1.
Horse Creek L. & M. Co., Cambridge Gas Co. 1.
Wells Drilling
Smith, Transylvania Pet. Co. 8.
Cooper, Union O. & G. Co. 1.
Burton-Breedlove, Union O. & G. Co. 1.
Lawson, Grant Gas Co. 1.
Thompson, Sovereign Gas Co. 1.
Lockwood & Co., Ray Gas Co. 1.
Hill, Bear Branch Gas Co. 3.
Horse Creek L. & M. Co., Cambridge Gas Co. 1.
Dingess, U. F. G. Co. 1.
Cooper, Union G. & O. Co. 1.
Hill, Bear Branch Gas Co. 3.

KANAWHA COUNTY
Wells Drilling
Morrison, U. F. G. Co. 1.
Hunt, U. F. G. Co. 1.
Henderson, U. F. G. Co. 1.
Jackson, U. F. G. Co. 1.
Gibson, U. F. G. Co. 1.
Carter, Oakland Dev. Co. 1.

BOONE COUNTY
Wells Drilling
Wetherell, So. P. O. Co. 1.
L. R. & P. Tract, Pure Oil Co. 26.
R. & P. Pure Oil Co. 6.
C. R. M. Co., Owens B. & M. Co. 26.
Pond Fork C. Co., Owens B. & M. Co. 3.

LOGAN COUNTY
Wells Drilling
Cole-Crane, Zonheimer & Gibbs 3.

MINGO COUNTY
Wells Drilling
Cotigo Dev. Co., Pure Oil Co. 1.
Closterman, A. B. McGrew 11.

PUTNAM COUNTY
Rigs
Taylor, Scott Oil Co. 2.
Simms, Kirtley & Kirtley 1.
Wells Drilling
Wall, Charlest-Dunbar G. Co. 1.
Smith, Charlest-Dunbar G. Co. 1.
Hanley, Ohio Fuel Oil Co. 2.
Frazier, Franklin & Dalton 1.

CABELL COUNTY
Wells Drilling
Chapman, Aetna O. & G. Co. 1.
Davidson, Aetna O. & G. Co. 2.
Morrison, Sweetland & Co. 1.
C. A. Morrison, Commercial Gas Co. 1.
Rigs, 57; wells drilling, 134; total, 191.

SOUTHWEST PENNSYLVANIA

Wells Completed

WASHINGTON COUNTY
Craft, Mfrs. L. & H. Co. ..... dry

ALLEGHENY COUNTY
Wallace, Parker & Co. 3 ..... dry

GREENE COUNTY
Haines, Peoples Gas Co. 1 ..... gas
Shriver, Peoples Gas Co. 1 ..... gas
Roberts, Eddy & Co. 1 ..... gas
Weimer, Mfrs. L. & H. Co. 1 ..... gas
Rice, Hamilton & Co. 1 ..... gas
Bonhaur, Carnegie Gas Co. 1 ..... dry
Wood, Carnegie Gas Co. 1 ..... dry
Goodwin, Carnegie Gas Co. 1 ..... dry
Goodwin, Carnegie Gas Co. 1 ..... dry
Keller, Dunn Mar O. & G. Co. 1 ..... gas

Wells completed	11
Production	6
Dry	4
Gas	7

WASHINGTON COUNTY
Wells Drilling
Durbin, E. H. Tague & Co. 2.
Taylor, J. R. Taylor & Co. 1.
Bedillion, Day & Bumgard 1.

ALLEGHENY COUNTY
Rigs
Willouby, Pinkerton & Co. 1.
Kirk heirs, Mellon & Pollock 1.
Aulston, Miller & Co. 1.
Shannon, P. J. Sohn & Co. 1.
Wells Drilling
Weir, George Weir 2.
Deam, Dunlap & Co. 1.
Douthett, Behm & Co. 1.
Huggins, Parker & Co. 1.
Bloom, Smith & Co. 1.
Wilson heirs, E. L. Oles 1.

BEAVER COUNTY
Well Drilling
Dawson, Reed & Co. 1.

GREENE COUNTY
Rigs
Headlee, So. P. O. Co. 3.
Hagen, Bell & Co. 1.
Henen, Mfrs. L. & H. Co. 2.
Clovis heirs, Mfrs. L. & H. Co. 4.
Rutan, N G. Co. of W. Va. 4.
Scott, Consumers Fuel Co 1.
Caseman, Caseman O. & G. Co. 1.
Wells Drilling
Lemley, Dunn Mar O. C. 2.
Lemley heirs, Fox O. & G. Co. 1.
Fox, Martin O. & G. Co 3.
Haines, Peoples Gas Co. 1.
O. E. Lemley, Carnegie Gas Co. 2.
King, Carnegie Gas Co. 1.
Williamson, Fred Garrison 1.
South, Fred Garrison 1.
Rose, Phila. Oil Co. 1.
Minor, Phila. Oil Co. 1.
Roberts, Eddy & Co. 1.
Fordyce, Clovis & Co. 1.
Hughes, Boundy Bros. & Co. 2.
Loar, Covert Bros. & Co. 1.
Finch, Carnegie Gas Co. 2.
Closser, Mfrs. L. & H. Co. 9.
Hawkins, Hawkins O. & G. Co. 1.
Taylor, Peoples Gas Co 1
Rigs, 11; wells drilling, 28; total, 39

SOUTHEAST OHIO

Wells Completed

MONROE COUNTY
Crinin, Antioch Prod. Co. 3 2

PERRY COUNTY
Chalfant, Empire O. & G. Co. 1 ..... dry
Barber, Walsmith Oil Co. 1 20

HOCKING COUNTY
Wagner, Gordon Oil Co. 4 300
Noble, Gordon Oil Co. 2 275
Lane, Twin Hill O. & G. Co. 1 20
Cottrell, Cottrell O. & G. Co. 1 ..... dry
Starr, Reno O. & G. Co. 8 ..... gas
John Starr, Westbrook Bros. ..... dry
Hazelton heirs, Big Ten O. & G. Co. 3 . 95
Hutcheson, Eureka O. & G. Co. 1 ..... dry

HOLMES COUNTY
Reese, Empire G. & F. Co. 1 ..... dry
Davenport, Empire G. & F. Co. 5 ..... dry
Hanna, Empire G. & F. Co. 1 30
Sojonauer, East Ohio Gas Co. 1 ..... dry
Miller, East Ohio Gas Co. 1 75
Forgy, East Ohio Gas Co. 1 20
Lahly, East Ohio Gas Co. 3 20

GUERNSEY COUNTY
Donley, O. F. O. Co. 1 ..... gas
Brayden, O. F. O. Co. 1 ..... gas
Ankrum, Ohio Oil Co. 1 ..... gas
Speer, Ohio Oil Co. 1 ..... gas
Knight, Big Lime Oil Co. 1 ..... gas

MUSKINGUM COUNTY
Irwin, Pure Oil Co. 1 10
Boyer, M. F. Whitehill 1 225
Wright, Pure Oil Co. 3 5

LICKING COUNTY
Stitt, Whitehill & Co. 6 60
Wilhelm, E. H. Everett Co. 3 120
Bowser, Midland Oil Co. 5 50
Dispennett, J. T. Bebout 2 2
Cotterman, Detex O. & G. Co. 5 3
Claypool, E. H. Everett 1 60
Neibarger, Edmonds & Co. 3 3
McKee, Preston Oil Co. 1 ..... dry
Booth heirs, Leonard O. & G. Co. 1 ... dry
Hardesty, Arkansas Fuel O. Co. 4..... 3
Harshbarger, O. F. S. Co. 1 6
Forry, Edmonds & Co. 6 5
McKinney, Rugg & Co. 3 4

COSHOCTON COUNTY
Mossholder, Murphy Oil Co. 1 40

FAIRFIELD COUNTY
Turner, O. F. S. Co. 1 ..... dry

MORGAN COUNTY
Bell, Dailey Oil Co. 1 5
Christma, Pure Oil Co. 6 15
Swytzer, Sun Oil Co. 16 40
Longstreth, Sun Oil Co. 4 10
Stoneburner, Arkansas O. & G. Co. 3.. gas
Morris, Little & Co. 1 1
Kasler, Little & Co. 1 3
Souders, Sun Oil Co. 10 10
Eppley, Pure Oil Co. 9 30

KNOX COUNTY
Neidenhouser, O. F. S. Co. 1 5
Richert, East Ohio G. & O. Co. 4..... 2

NOBLE COUNTY
Wagner, Hutcheson & Co. 1 1
Thomas, Brown & Co. 1 ..... dry
Moore, Harper & Co. 2 ..... dry
Miller, Saling & Co. 1 ..... gas
Cornet, Dunn & Co. 2 1

ATHENS COUNTY
Riley, Harmon & Co. 1 5
Biddle heirs, Biddle O. & G. Co. 1.... 15
McKnight, Ohio O. & G. Co. 3..... 5
Whaley, Beasley & Co. 9 3
Smoot, Townsend O. & G. Co. 7..... 5
Smoot, Townsend O. & G. Co. 8..... 5
Jones, Ohio O. & G. Co. 2 10

MEIGS COUNTY
Krider, Rood & Co. 2 6
Roush, Roush Bros. 1 ..... gas
Hartling, W. N. Hovis 1 ..... gas

WASHINGTON COUNTY
Greene, Patterson & Co. 5 20
Kirkbride, Peoples Savings Bank 7... 2
Young, Becker & Co. 3 ..... dry

Wells completed	70
Production	1652
Dry	12
Gas	11

MONROE COUNTY
Well Drilling
Jeffers, Crawford & Co. 1.

PERRY COUNTY
Rigs
Miller, Planet Oil Co. 1.
McCullough, Hope C. & R. Co. 1.
Reed, S. H. C. Co. 2
Well Drilling
Love, Brush Creek O & G. Co. 1.

HOCKING COUNTY
Rigs
Anthony, Gordon Oil Co. 4, 5.
H. V. P. Co., Chartiers Oil Co. 198, 199.
Hazelton heirs, Big Ten O & G. Co. 4.
Wells Drilling
Miller, O. F. S. Co. 2
Miller heirs, Graystone Oil Co. 11.
Plukarp, Logan Gas Co. 1.
Hoskins, O. F. S. Co. 3.
Sunday Creek C. Co., Sunday Creek C. Co. 135.
Schnider, Welch Bros. 1.
M. V. P. Co., Charities Oil Co. 198.
Tracey Estate, Kachelmacher Estate 20.
Cobb-Bradley, A. H. Squires 14.

HOLMES COUNTY
Rigs
Pyers, Ohio Fuel Gas Co. 2.
Bridges, Empire G. & F. Co. 2.
Bell, East Ohio Gas Co. 2.
Wells Drilling
Hammontree, East Ohio Gas Co. 1.
Davenport, Empire G. & F. Co.
Carpenter, Ohio Oil Co. 2.

Miller, Arkansas Fuel Oil Co. 2.
Schlarb, Arkansas Fuel Oil Co. 1.
Bell, Arkansas Fuel Oil Co. 2.
Schuler, Globe O. & G. Co. 1.
Close, Empire G. & F. Co. 2.
Netherow, Empire G. & F. Co. 1.
Miller, Empire G. & F. Co. 2.
Sowash, East Ohio Gas Co. 4.
Kendall, East Ohio Gas Co. 6.

GUERNSEY COUNTY

Rigs

Watson, C. F. G. Co. 1.
Morrison, C. F. G. Co. 1
Shrum, C. F. G. Co. 1.
McHaffey, Ohio Oil Co. 1.
Ankrum, Ohio Oil Co. 2.

Wells Drilling

Mercer, Ohio Oil Co. 2.
McHaffey, Ohio Oil Co. 1.
Untersumber, Cambridge Oil Co. 2.
Williams, Logan Gas Co. 3.

MUSKINGUM COUNTY

Wells Drilling

Harrop, J. N. Rusk 9.
Young, Detox Oil Co. 1.

LICKING COUNTY

Rigs

Phillips, Hope C. & R. Co. 3.
Brown, Hope C. & R. Co. 1.
Haynes, E. H. Everett Co. 3.
Walcott heirs, E. H. Everett Co. 2.
Bogle, Midland Oil Co. 2.
Uffner, Hope C. & R. Co. 1.
Forry, Edmonds & Co. 7.

Wells Drilling

Fleming, W. W. Wehrley 1.
Stitt, Whitehill & Co. 5.
Wilhelm, E. H. Everett Co. 1.
Cooperrider, Midland Oil Co. 2.
Orr, Glass and Haslett 2.
Myers, Leonard O. & G. Co. 1.
Davidson, Margaret Oil Co. 4.
Dush, O. F. S. Co. 1.

COSHOCTON

Rigs

McKee, Spindle, Doan & Co. 4.
Norris, Leonard O. & G. Co. 1.
Fair, Ohio Oil Co. 15.

Wells Drilling

Conkle, East Ohio Gas Co. 2.

MORGAN COUNTY

Rigs

Huffman, Bowman O. & G. Co. 1.
H. D. Huffman, Cameron O. & G. Co. 1.

Wells Drilling

Swytzer, Sun Oil Co. 17.

KNOX COUNTY

Rigs

Heaton, Pure Oil Co. 2.

Wells Drilling

Snively, East Ohio G. & R. Co. 16.

NOBLE COUNTY

Rigs

Hill, Harper & Co. 1.
Cisler, Hanlon & Co. 2.
Watson, O. F. S. Co. 1.

Wells Drilling

Williams, Herds O. & G. Co. 4.
Crock, Wickens & Co. 1.
Noreland, Mosley & Co. 5.

ATHENS COUNTY

Wells Drilling

Baker, Ohio O. & G. Co. 4.
Holter, Lefaw & Co. 3.
Snowfall, Benedick Bush 1.

WASHINGTON COUNTY

Rigs

McCormell, Clark & Todd 7.
Young, Becker & Co. 4.

Wells Drilling

Little, G. W. Kesselring 19.
Getchall heirs, Henderson Oil Co. 2.
Burger Oil Co., J. E. Patterson 6.
Smith, Harvey Schneider 5..
Yost, Harris & Co. 4.
Fern, E. A. Metcalf 1.
Schram, Hoffman & Co. 2.

JEFFERSON COUNTY

Rigs

Groves & Co., Boyce & Co. 7.

Wells Drilling

Cooper, Cooper & Co. 1.

CARROLL COUNTY

Wells Drilling

Harrington, N. G. C. of W. Va. 2.
Dorrance heirs, Brown & Co. 1.

COLUMBIANA COUNTY

Wells Drilling

Teetera, Benninghoff & Co. 13.
Rigs, 35; wells drilling, 57; total, 92.

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Fairfield	1	0	1	0	0	0	0
Knox	1	0	0	1	1	2	3
Ashland	3	0	1	2	2	7	9
Medina	3	20	2	0	0	2	2
Lorain	2	0	0	2	1	7	8
Wayne	1	0	0	1	1	6	7
Holmes	7	329	2	1	1	19	20
Jackson	2	0	2	0	0	0	0
Athens	4	0	1	3	2	5	7
Coshocton	3	165	2	0	2	2	4
Guernsey	8	0	0	8	7	5	12
Cuyahoga	0	0	0	0	2	3	5
Total March.	35	514	11	18	19	58	77
Total Feb.	30	278	5	18	23	54	77
Difference	5	236	6	0	4	4	0

WELLS COMPLETED
FAIRFIELD COUNTY

Richland—S. S. Turner, Ohio Fuel Supply 1 ..... dry

KNOX COUNTY

Jefferson—Hillery Pyers, I. E. O'Hail 1 gas

ASHLAND COUNTY

Orange—Daniel Market, Hulse & Kundtz 1 ..... gas
G. B. Frey, Orange Oil & Gas 3 ..... gas
Hanover—Jno. E. Workman, Ohio Fuel gas 1 ..... dry

Wells completed 3
Dry 1
Gas 2

MEDINA COUNTY

Montville—Thos. E. Partlan, Ohio Fuel Gas 1 ..... dry
Liverpool—Phoebe Stroskopf, East Ohio Gas 2 ..... dry
Chatham—L. J. Kent, Star Oil 6 20

Wells completed 3
Oil wells 1
Production 20
Dry 2

LORAIN COUNTY

Columbia—W. C. Jasper, Ohio Fuel Gas 2 ..... gas
J. M. & A. Ashman, Ohio Fuel Gas 2 gas

Wells completed 2
Gas 2

WAYNE COUNTY

Greene—Wm. Funk, W. E. Hawk & Co. 1 ..... gas

HOLMES COUNTY

Monroe—U. S. Davenport 140-a., Empire Gas & Fuel 5 ..... gas
Prairie—W. H. Miller, Pure Oil 4..... 4
Hardy—J. E. & M. Miller, East Ohio Gas 1 185
J. R. Forgy, East Ohio Gas 6 70
G. & M. Galley, East Ohio Gas 3 .. 70
Kilbuck—A. W. Schoonover, Ohio Oil 2 dry
J. P. Reese, Empire Gas & Fuel 1... dry

Wells completed 7
Oil wells 4
Production 329
Dry 3
Gas 1

JACKSON COUNTY

Franklin—Geo. W. Westlake, Ohio Fuel Supply 1 ..... dry
Washington—S. E. Oghier, Ohio Fuel Gas 1 ..... dry

Wells completed 2
Dry 2

ATHENS COUNTY

Carthage—C. L. Knight, Logan Gas 1 gas
J. E. Bailey, Jay Oil & Gas 8..... gas
C. D. Swartz, R. E. Hamrick & Co. 1 gas
Waterloo——Fee, Ohio Oil 1 ..... dry

Wells completed 4
Dry 1
Gas 3

COSHOCTON COUNTY

Perry—W. Mouseholder, Murphy & Co. 1 165
W. B. & M. E. McKee, Logan Gas 1 dry
White Eyes—E. Henderson, Empire Gas & Fuel 1 ..... dry

Wells completed 3
Oil wells 1
Production 165
Dry 2

GUERNSEY COUNTY

Adams—Geo. C. Speer, Ohio Oil 1.... gas
Frank Ankrum, Ohio Oil 1 ..... gas
M. H. Brayden, Ohio Fuel Gas 1..... gas
C. M. Donley, Ohio Fuel Gas 1..... gas
F. P. Mullins, Ohio Fuel Gas 1..... gas
Wm. Knight, Ohio Fuel Gas 1 ..... gas
Wm. Knight, Big Lime Oil 1 ..... gas
Center—W. J. Hutton, Thos. Matthews & Co. 1 ..... gas

Wells completed 8
Gas 8

KNOX COUNTY

Rigs

Jefferson—J. Rowland, Ohio Fuel Gas 1.

Wells Drilling

Jefferson—Jacob Greer, James E. Greer 1.
Geo. W. Schultz, J. B. Reed & Co. 1.
Rigs, 1; wells drilling, 2; total, 3.

ASHLAND COUNTY

Rigs

Orange—K. H. Flute, Logan Gas 1.
J. F. Brockaway, Logan Gas 2.

Wells Drilling

Orange—J. F. Brockaway, Logan Gas 3.
P. C. Fritzmyer, Preston Oil 1.
Hanover—John E. Shoudt, Ohio Fuel Gas 1.
Frank Firestone, Logan Gas 1.
Greene—J. F. Jones, Ohio Fuel Gas 1.
Sullivan—S. Sponsler, Klise-Eckstein-McCann 2.
Troy—R. H. Hartsmiller, Hulse & Kundtz 1.
Rigs, 2; wells drilling, 7; total, 9.

MEDINA COUNTY

Wells Drilling

Chatham—L. J. Kent, Star Oil 7.
York—Frederick Baker, Hulse & Kundtz 2.
Rigs, 0; wells drilling, 2; total, 2.

LORAIN COUNTY

Rigs

Huntington—Catherine Cassell, East Ohio Gas 1.

Wells Drilling

Columbia—Ruth A. Krebs, Empire Gas & Fuel 1.
C. & I. Chope, Dillon & McFrederick 1.
W. W. Goodman, East Ohio Gas 2.
Chas. Brozek, Wiser Oil 1.
E. E. Churchwood, Daugherty Bros. 2.
Ridgeville—A. H. Atkinson, Logan Gas 1.
Avon—J. Miller, Edson Co. 1.
Rigs, 1; wells drilling, 7; total, 8.

WAYNE COUNTY

Rigs

Cannan—T. A. Morrow, Wm. Denny & Co. 1.

Wells Drilling

Wooster—W. M. Orr, Ohio Oil 4.
Lee Martin, Ohio Oil 2.
Milton—D. W. Hemming, Logan Gas 1.
Paint—J. M. Westcott, Ohio Fuel Gas 1.
Congress—S. A. Swanson, Warren Palmer & Co. 2.
Chester—W. Rathburn, Logan Gas 1.
Rigs, 1; wells drilling, 6; total, 7.

HOLMES COUNTY

Rigs

Kilbuck—Rachael Mohn, Ohio Oil 2.

Wells Drilling

Monroe—C. E. Carpenter, Ohio Oil 1.
B. C. Bird, East Ohio Gas 4.
Wm. Miller, Arkansas Fuel Oil 2.
U. S. Davenport 36-a., Empire Gas & Fuel 2.
Prairie—Wayne F. Kendall, East Ohio Gas 6.
L. A. Sowash, East Ohio Gas 3.
W. H. Miller, Empire Gas & Fuel 2.
Richland—Geo. W. Brown, Logan Gas 1.
Hardy—Christian E. Schlarb, East Ohio Gas 1.
Harvey Bell, East Ohio Gas 2.
Jesse P. Close, Empire Gas & Fuel 2.
Mary E. Bridges, Empire Gas & Fuel 2.
Delpha Netherow, Empire Gas & Fuel 1.
Geo. Schuler, Warren Palmer & Co. 1
Kilbuck—Chas. Hammondtree, East Ohio Gas 1.
Albert Smith, Ohio Oil 1.
Isaac Pyers, Ohio Fuel Gas 1
Paint—Yost Weaver, Ohio Fuel Gas 1.
Emanuel M. Miller, Logan Gas 1.
Rigs, 1; wells drilling, 19; total, 20.

ATHENS COUNTY

Rigs

Carthage—J. E. Bailey, Jay Oil & Gas 9.
Waterloo—Lafayette Hewitt, Gunther & Co. 2.

Wells Drilling

Carthage—G. E. Bradford, Goddard & Cunningham 1.
McKinley, Fairfield Gas 2.
Oliver Davis, Hawkins & Co. 1.
C. D. Swartz, R. E. Hamrick & Co. 2.
Rome—E. S. Byron, H. W. Leeper & Co. 3.
Rigs, 2; wells drilling, 5; total, 7.

COSHOCTON COUNTY

Rigs

Perry—Wheeler Mouseholder, Murphy & Co. 2.
Newcastle—Rodenhaver, Cline Bros. 1.

Wells Drilling

Newcastle—Wm. Johnson, Bell Bros. 3.
Clark—John Concle, East Ohio Gas 2.
Rigs, 2; wells drilling, 2; total, 4.

GUERNSEY COUNTY

Rigs

Adams—Geo. Bell, Ohio Fuel Gas 1.
Riley Moore, Ohio Oil 1.
James Mercer, Ohio Oil 3.
M. K. Wells, Logan Gas 1.
Jackson—Alice B. Mehaffey, Ohio Oil 1.
C. O. Watson, Ohio Fuel Oil 1.
Cambridge—W. C. Morrison, Cambridge Gas 1.

Wells Drilling

Adams—Untersimber, Cambridge Gas 2.
Seward R. Williams, Logan Gas 3.
Frank Anthrum, Ohio Oil 2.
Walter F. Mehaffey, Ohio Oil 1.
James Mercer, Ohio Oil 2.
Rigs, 7; wells drilling, 5; total, 12.

CUYAHOGA COUNTY

Rigs

Strongville—E. I. Gifford, East Ohio Gas 1
B. H. & E. A. Adams, East Ohio Gas 1.

Wells Drilling

Dover—J. C. Lemmon, McGrath & Co. 1.
F. A. Weston, Preston Oil 1.
J. Jenkins, Hulse & Kundtz 1.
Rigs, 2; wells drilling, 3; total, 5.

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	2	105	0	0	6	7	13
Hancock	5	45	0	0	1	7	8
Allen	2	45	0	0	1	2	3
Auglaize	1	10	0	0	3	6	8
Sandusky	4	27	0	0	0	4	4
Mercer	4	41	0	1	0	2	2
Seneca	0	0	0	0	0	1	1
Lucas	0	0	0	0	0	2	2
Ottawa	3	24	0	0	0	5	5
Shelby	3	11	0	0	2	4	6
Darke	0	0	0	0	0	1	1
Hardin	5	122	1	1	0	3	3
Paulding	0	0	0	0	2	0	2
Michigan	1	65	0	0	1	5	6
Total March.	30	495	1	2	15	49	64
Total Feb.	29	537	2	1	3	41	44
Difference	1	42	1	1	12	8	20

WELLS COMPLETED
WOOD COUNTY

Montgomery—H. L. Byington, Onsel Bros. 1, 2 ..... abd
John Cook, Onsel Bros. 1, 2..... abd
Henry—M. Auverter, Ohio Oil 31..... 100
Liberty—E. A. Judson, Hulse & Kundtz 1 5

Wells completed 2
Production 105
Abandoned 4

HANCOCK COUNTY

Liberty—Jane Wheeler, Star & Clark 5 20
James Steen, Baseline Oil 10 10
Allen—John Roth, Poole & Co. 1..... 1
Portage—C. L. Turley, Ohio Oil 7..... 12
Union—J. A. Thompson, N. E. Bryson 15 2

Wells completed 5
Production 45

ALLEN COUNTY

Bath—Wm. Lenny, Chas. Geselchen & Co. 2 30
Hattie E. Driver, O. T. Botkins & Co. 2 15
Spencer—F. M. Hockenberry, Ohio Oil 1 ..... abd

Wells completed 2
Production 45
Abandoned 1

AUGLAIZE COUNTY

Moulton—J. H. Gochenour, Ohio Oil 16 10
Noble—Phil Roby, Marcus Rosenthal 1 abd
W. Ormstrong, Ohio Oil 3, 4 ..... abd
Salem—A. J. Gierhart, Moore & Co. 1. abd

Wells completed 1
Production 10
Abandoned 4

SANDUSKY COUNTY

Washington—Henry Kinker, Ohio Oil 4 9
G. W. Neff, Neff Oil 7 10
Scott—Henry Nye, Chas. Brown 7..... 5
Jackson—Geo. Vandersall, Frank Haubert & Co. 6 3
W. D. Hummel, Hurry Up Oil 5 ..... abd

Wells completed 4
Production 27
Abandoned 1

MERCER COUNTY

Center—N. Nolan, N. E. Masters 3..... 30
Chas. D. Wuester, H. H. Cuppier 2 10
T. E. Nelson, Mack P. Colt & Co. 1 1
Washington—J. N. Losha, Recovery Oil & Gas 1 ..... gas

Wells completed 4
Production 41
Gas 1

VAN WERT COUNTY

Jennings—Geo. Becker, Miller Bros. & Jones, 4, 10, 12, 20. 21 ..... abd
Haver Becker, Miller Bros. & Jones 4, 13, 14, 15, 18 ..... abd

Abandoned 10

OTTAWA COUNTY

Harris—Ed. Deitmyer, Harris Oil 8..... 12
Ernest Bussman, River Oil 7 8
A. Barkam, Zorn-Hornung Co., 1... abd
Benton—Wm. Nissen, Gladieux & Herman 1 4

Wells completed 3
Production 24
Abandoned 1

SHELBY COUNTY

Cynthian—Henry Wissman, W. E. McKelvey & Co. 4 5
Felix Grilliox, Lee A. Watson 3..... 5
Chas. F. Broerman, Mansfield Oil & Gas 8 1

Wells completed 3
Production 11

HARDIN COUNTY

McDonel—John Ewing, Boston-Southwestern Oil & Gas 1 ..... dry
Geo. W. Strawn, Boston-Southwestern Oil & Gas 2 32
A. B. Zimmerman, Sanford, Ulrich & Co. 5 55
Mary Clark Irwin, Boston-Southwestern Oil & Gas 4 35
A. J. Fleece, Schmidt & Co. 1 ..... gas

Wells completed 5
Production 122
Dry 1
Gas 1

MICHIGAN

SAGINAW COUNTY

Saginaw—North Saginaw, Bliss Petroleum Co. 1 65

WOOD COUNTY

Rigs

Perrysburg—Geo. D. Verna, Oko Oil & Gas 4.
Louisa DeVerna, Oko Oil & Gas 3.
A. H. Lindermier, Oko Oil & Gas 8.
Grace Dauer, Oko Oil & Gas 2.
Lake—H. C. Michaelson, Lantx, Schulty & Co. 2.
Middleton—Chas. A. Tanner, Chas. A. Tanner 3.

Wells Drilling

Henry—F. Bealer, Ohio Oil 29.
John Cahill, Trail Oil 5.
Liberty—Caleb Mercer, Ohio Oil 13.
Geo. Bordner, Queen Oil 2.
Perrysburg—O. B. Spiiker, Hoffman & Haas 4.
Webster—Hugh Stewart, Hugh Stewart 2.
Mike Roller, John Geldin & Co. 1.
Rigs, 6; wells drilling, 7; total, 13.

HANCOCK COUNTY

Rigs

Biglick—S. Seiber, Kirk & Fitcher 1.

Wells Drilling

Liberty—James Steen, Baseline Oil 11.
E. Crow, Baseline Oil 1.
J. K. Wheeler, Baseline Oil 5.
Portage—J. E. Moorehead north, Ohio Oil 11.
C. L. Turley, Ohio Oil 8.
Eagle—Alice Stauffer, Star & Clark 8.
Orange—Asa Stratton, Ohio Oil 24.
Rigs, 1; wells drilling, 7; total, 8.

ALLEN COUNTY

Rigs

Bath—P. D. Driver, O. T. Botkins & Co. 3.

Wells Drilling

Bath—Wm. Lenny, Chas. Geselchen & Co. 4.
Spencer—John A. Beerman, Gwinn Oil & Gas 5.
Rigs, 1; wells drilling, 2; total, 3.

AUGLAIZE COUNTY

Rigs

Jackson—Clemens, Enneking, Rock Oil 1.
Salem—Wm. T. Seibert, Bachelor Oil 9.

Wells Drilling

Moulton—Chas. Fritz, Wheeling & Zimmerman 1.
John H. Gochenour, Ohio Oil 17.
John Harshbarger, Kelly Bros. 1.
Douchouquet—C. Vossler, Vossler Oil 4.
Fred Koch, Vossler Oil 1.
Washington—Henry Steva, E. B. Jack & Co. 2.
Rigs, 2; wells drilling, 6; total, 8.

SANDUSKY COUNTY

Wells Drilling

Woodville—Herman Linke, Chas. F. Zeising & Co. 2.
Washington—Henry Kinker, Ohio Oil 5.
Jackson—B. J. Rinebold, B. J. Rinebold 8.
W. D. Hummel, Hurry Up Oil 6.
Rigs, 0; wells drilling, 4; total, 4.

MERCER COUNTY

Wells Drilling

Center—Henry S. Lewis, N. E. Masters 2.
Mosan Townsend, Mack P. Colt & Co. 1.
Rigs, 0; wells drilling, 2; total, 2.

SENECA COUNTY

Wells Drilling

Clinton—A. E. Geyer, Arthur E. Geyer 1.

LUCAS COUNTY

Wells Drilling

Jerusalem—R. H. & M. A. Eck, Ohio Oil 21.
Monclova—Wm. Black, L. W. Vaermilya, Receiver 2.
Rigs, 0; wells drilling, 2; total, 2.

OTTAWA COUNTY

Wells Drilling

Harris—Edward W. Yeasting, Zorn-Hornung Oil 13.
Ernest Bussman, River Oil 8.
Chas. H. Magsig, Gust Magsig & Son 11.
Catawba—Mrs. J. F. Byrnes, Catawba Oil & Gas 1.
Salem—A. G. Milander, Oak Harbor Natural Gas 1.
Rigs, 0; wells drilling, 5; total, 5.

SHELBY COUNTY

Rigs

McLean—Henry Ernst, L. T. McGrath 1.
Frank Ernst, Wittmer Property Trustee 1

Wells Drilling

Cynthian—E. Lollemond, Ellerman Oil 2.
Henry Wissman, W. E. McKelvey & Co. 5.
Chas. F. Broerman, Mansfield Oil & Gas 9.
Jos. Siegel, Wittmer, Property Trustee 4.
Rigs, 3; wells drilling, 4; total, 6.

DARKE COUNTY

Wells Drilling

Patterson—G. F. Truesruth, Lee A. Watson 1.

HARDIN COUNTY

Wells Drilling

McDonel—Mary Clark Irwin, Boston-Southwestern Oil & Gas 5.
Geo. W. Strawn, Boston-Southwestern Oil & Gas 3.
A. B. Zimmerman, Sanford, Ulrich & Co. 6.
Rigs, 0; wells drilling, 3; total, 3.

PAULDING COUNTY
Rigs
Harrison—C. C. Springer, John T. Schunck & Co. 6.
A. M. Bailey, U. S. A. Oil 6.
Rigs, 2; wells drilling, 0; total, 2.

MICHIGAN
SAGINAW COUNTY
Rig
Saginaw—Saginaw Prospecting 6.
Wells Drilling
Saginaw—Saginaw Prospecting 5.
Bliss Petroleum 2.
Sun Co. 1.
Rigs, 1; wells drilling, 3; total, 4.

MONROE COUNTY
Wells Drilling
Dundee—Frank Roe, Jackson County Oil & Gas 1.

JACKSON COUNTY
Wells Drilling
Napoleon—Silvers, Jackson County O. & G. 1.

ILLINOIS FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	1	3	0	0	2	2	
Crawford	2	65	0	1	5	6	
Lawrence	1	4	0	0	2	2	
Wabash	13	415	5	3	21	24	
Marion	1	3	0	0	1	1	
Coles	0	0	0	0	1	1	
Douglas	0	0	0	0	1	1	
Jasper	1	3	0	0	1	1	
Morgan	0	0	0	0	3	3	
Fayette	0	0	0	1	1	2	
Edwards	0	0	0	1	0	1	
Randolph	0	0	0	0	1	1	
Montgomery	0	0	0	0	1	1	
Madison	0	0	0	0	1	1	
Total March	18	492	5	7	41	48	
Total Feb.	31	627	11	11	37	48	
Difference	13	135	6	4	4	0	

WELLS COMPLETED
CLARK COUNTY
Westfield—Samuel James, Ohio Oil 23. 3
CRAWFORD COUNTY
Oblong—A. Reedy, Mahutska Oil 18 ... 40
Honey Creek—L. N. Tohill, Phipps, Cawood & Co. 1 ... 25
Wells completed ... 2
Production ... 65
LAWRENCE COUNTY
Dennison—P. S. VanWey, Ohio Oil 8.. 4
WABASH COUNTY
Wabash—School lot, Mack Leighty & Co. 1 ... dry
J. F. Stillwell, Mahutska Oil 5 ... dry
Mack Madden, Adams Corner Oil 7 50
Mary Storckman, Review Oil 1 ... dry
Holson-Dorney, Max Oil 6 ... 85
Holson-Dorney, Dane Oil 3 ... 80
Cisil heirs, Foreman & Co. 2 ... 20
E. Leighty, Arkansas Fuel Oil 2 ... dry
W. Courter, Bell & Co. 1 ... dry
Nora Keen Marcotte, W. C. McBride 3 25
Friendsville—John Price, Joe S. Young, Jr., & Co. 1 ... 80
Franklin School lot, Joe S. Young, Jr., & Co. 1 ... 75
Wells completed ... 12
Production ... 415
Dry ... 5
MARION COUNTY
Sandoval—Marion County Coal, Alspach & Fox 2 ... 3
JASPER COUNTY
Grandville—Wm. Freeland, White & Moran 1 ... 2
CLARK COUNTY
Wells Drilling
Parker—J. S. Phillips, Ohio Oil 23.
Westfield—Samuel James, Ohio Oil 24.
Rigs, 0; wells drilling, 2; total, 2.
CRAWFORD COUNTY
Rigs
Prairie — Amelia E. Joseph, McNally & Starr 7.
Wells Drilling
Oblong—H. M. Wilson, Peoples Banking & Trust 9.
A. Reedy, Mahutska Oil 19.
E. D. Culp, Ohio Oil 10.
Martin—A. M. Shipman, James Pease & Co. 14.
Honey Creek—R. Weger, Craig, Lowrie & Co. 11.
Rigs, 1; wells drilling, 5; total, 6.
LAWRENCE COUNTY
Wells Drilling
Dennison—Vanerwart, Ohio Oil 1.
Petty—Wm. Ross, Silurian Oil 18.
Rigs, 0; wells drilling, 2; total, 2.
WABASH COUNTY
Rigs
Friendsville—A. Bert Keen, Piper & Co. 1, 2
Ezra Bass, Miller & Co. 2.
Wells Drilling
Wabash—M. Madden, Mahutska Oil 3, 4.
John Stillwell, Adams Corner Oil 1.
Mack Madden, Adams Corner Oil 1.
Nora Keen Marcotte, W. C. McBride 4.
L. G. Stillwell, Risley & Co. 2.
Tracey heirs, Risley & Co. 2.
H. S. Shaffer, Donathan & Co. 1.
James Stillwell, Hartman & Co. 4, 5.
F. M. Leek, Clark & Oldendorf 3.
Holson-Dorney, Max Oil 7.
Holson-Dorney, Dane Oil 4.
Keyser, Wirebaugh & Co. 1.
Kate Keyser, Joe S. Young, Jr., & Co. 4.
Mt. Carmel—Chas. Chapman, Mt. Carmel Community Oil 1.
Fred Sharp, Unknown 1.
Friendsville—C. Frick, Karnes & Co. 1.
Jabez Taylor, Miller & Co. 1.
J. O. Wood, Clark, Oldendorf & Co. 1.
John Price, Joe S. Young, Jr., & Co. 2.
Rigs, 3; wells drilling, 21; total, 24.
MARION COUNTY
Wells Drilling
Centralia—Fannie McIntosh, James Oil 2.
COLES COUNTY
Wells Drilling
Charleston—Earl Thralkill, Block Oil Corp. 1.
DOUGLAS COUNTY
Wells Drilling
Sargent—W. W. Brown, Douglas Oil 1.
JASPER COUNTY
Wells Drilling
Grandville—Arthur Leamon, Pure Oil 1.

MORGAN COUNTY
Wells Drilling
Jacksonville—15-9-3w, W. F. Cody 2.
15-9-4w, Unknown 1.
N. E. Range 10, Jacksonville Parties 1.
Rigs, 0; wells drilling, 3; total, 3.
FAYETTE COUNTY
Rig
Fayette—John Baxter, H. McCurdy 1.
Wells Drilling
Fayette—Ohio Oil 1.
Rigs, 1; wells drilling, 1; total, 2.
EDWARDS COUNTY
Rig
Near Graysville—Porter & Co. 1.
RANDOLPH COUNTY
Rigs
Sparta—Near Tilden, Unknown 1.
Wells Drilling
Sparta—McElroy, Bill Goddard & Co. 1.
Rigs, 1; wells drilling, 1; total, 2.
MONTGOMERY COUNTY
Wells Drilling
Nokomis—Ohlman Dome, Ohlman Dome Oil & Gas 1.
MADISON COUNTY
Wells Drilling
2 Miles N. E. Bellville—Unknown 1.

INDIANA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	1	1	
Jay	1	3	0	0	4	4	
Adams	0	0	0	0	3	3	
Delaware	0	0	0	0	1	1	
Randolph	0	0	0	1	0	1	
Pike	1	0	1	3	4	7	
Sullivan	1	0	1	0	1	1	
Knox	1	0	1	0	7	7	
Allen	0	0	0	0	2	2	
Daviess	1	25	0	0	3	3	
Henderson	0	0	0	0	1	1	
Jackson	0	0	0	0	1	1	
Shelby	0	0	0	0	1	1	
Lagrange	0	0	0	0	1	1	
Vigo	0	0	0	0	1	1	
Dubois	0	0	0	0	1	1	
Total March	5	28	3	4	32	36	
Total Feb.	12	146	3	2	30	32	
Difference	7	118	0	2	2	4	

WELLS COMPLETED
JAY COUNTY
Bear Creek—G. Runyon, Schulte & Co. 1 3
GIBSON COUNTY
Patoka—Mumford heirs, Ohio Oil 1, 3 abd
John & E. Tulley, Consolidated Oil Dev. 1 ... abd
Washington—L. R. Cunningham, Ohio Oil 1 ... abd
Wells completed ... 3
Abandoned ... 3
PIKE COUNTY
Logan—E. S. Wilson, Willis & Co. 1.. dry
SULLIVAN COUNTY
Hamilton—L. D. Laudermilk, Seitz & Co. 1 ... dry
KNOX COUNTY
Decker—Upham, Unknown 1 ... dry
DAVIESS COUNTY
Veale—John Peek, Maple Oil 3 ... 25
WELLS COUNTY
Wells Drilling
Nottingham—H. J. Heistand, Say Oil 1.
JAY COUNTY
Wells Drilling
Bear Creek—H. Armontrout, Heeter & Daugherty 11.
D. W. Bergman, Mesel & Mesel 7.
Irwin Campbell, H. S. Ogle & Co. 3.
Greene—Roe Houck, Bloxsome & Co. 1.
Rigs, 0; wells drilling, 4; total, 4.
ADAMS COUNTY
Wells Drilling
Jefferson—W. F. Johnson, Geo. S. Lackmet 5.
Wabash—Armstrong heirs, Chicago Oil 2.
J. C. Steiner, M. S. Daugherty & Co. 3.
Rigs, 0; wells drilling, 3; total, 3.
DELAWARE COUNTY
Wells Drilling
Delaware—J. W. Goings, J. E. Houk Oil & Hawkins 11.
RANDOLPH COUNTY
Rigs
Greene—W. Cline, T. O. Thorp 2.
PIKE COUNTY
Rigs
Logan—E. Beck, Alex Singer & Co. 2.
Will Miley, J. Morsey & Co. 1.
J. S. Wilson, Miller & Davis 1.
Wells Drilling
Logan—Sarah Shoaf heirs, Andrews & Burden 2.
Ralph Robling, H. Loeb & Co. 1.
Monroe—Geo. A. Taylor, Gem Oil Corp. 2.
Clay—Stewart Bros., Murphy Oil 3.
Rigs, 3; wells drilling, 4; total, 7.
SULLIVAN COUNTY
Wells Drilling
Turman—M. J. Baird No. 2, Ohio Oil 25.
KNOX COUNTY
Wells Drilling
Decker—Musseleman, Eastern Gulf Oil 1.
Nellie M. Orr, Eastern Gulf Oil 1.
Henry Sullivan, unknown 1.
J. N. Ballentine, Russell Producing Co. 1.
Henry Decker, Russell Producing Co. 1.
Harrison Buchanan, unknown 1.
P. Steckler, unknown 1.
Rigs, 0; wells drilling, 7; total, 7.
ALLEN COUNTY
Wells Drilling
Maumee—W. Kammyer, Estes, Manion & Co. 1.
J. H. Gerber, Schuran Oil 3.
Rigs, 0; wells drilling, 3; total, 3.
DAVIESS COUNTY
Wells Drilling
Veale—J. E. Peck, Commercial Prod. 1.
Gaither, Sargent, Hartman & Co. 3.
Unknown, Washington parties 1.
Rigs, 0; wells drilling, 3; total, 3.
HENDERSON COUNTY
Wells Drilling
Clay—W. E. Christy, Amo Oil 1.
JACKSON COUNTY
Wells Drilling
Near Freetown, Unknown 1.
SHELBY COUNTY
Wells Drilling
Van Buren—J. Harshbarger, L. Nicholson 1.

LA GRANGE COUNTY
Wells Drilling
Howe—Howe Oil & Gas 1.
VIGO COUNTY
Wells Drilling
Sugar Creek—Nattkemper, Welch, Flynn & Gambill 1.
DUBOIS COUNTY
Wells Drilling
Near Huntingburg—Unknown 1.

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	8	7	6	0	0	14	14
Allen	2	2	1	0	0	12	12
Barren	13	133	3	0	0	33	33
Owensboro district	10	88	5	0	4	16	20
Cumberland-Monroe	1	75	0	0	0	17	17
Adair	0	0	0	0	0	1	1
Hopkins	0	0	0	0	0	1	1
Simpson	1	10	0	0	0	3	3
Green	0	0	0	0	0	2	2
Wayne	2	1	0	0	0	6	6
Lee-Owsley	1	100	0	0	0	10	10
Knox	0	0	0	0	0	2	2
Lawrence-Johnson	5	59	0	0	4	5	9
Johnson-Magoffin	7	64	1	0	2	6	9
Floyd	0	0	0	0	0	7	7
Estill	7	20	1	0	0	3	3
Wolfe	0	0	0	0	0	1	5
Morgan	3	10	0	0	0	5	5
Elliott	0	0	0	0	1	2	3
Menifee	0	0	0	0	0	2	2
Laurel	0	0	0	0	0	1	1
Jackson	1	8	0	0	0	1	1
Kentucky	61	580	18	0	12	150	162
Tennessee	0	0	0	0	0	7	7
Mississippi	0	0	0	0	2	9	11
Alabama	0	0	0	0	0	4	4
Georgia	0	0	0	0	1	3	4
Total March	61	580	18	0	15	173	188
Total Feb.	113	766	25	8	19	146	165
Difference	52	186	7	8	4	27	23

WELLS COMPLETED
WARREN COUNTY
Bowling Green—G. Davenport No. 3, T. A. Sheridan 4 ... dry
G. Davenport No. 1, T. A. Sheridan 1 dry
J. C. Brownfield, Onsel-Hanrahan Oil 9 ... 2
Besse Snell Clark, New Domain Oil & Gas 4 ... dry
Herbert Jenkins, Wilson & Co. 3.... dry
E. & G. Davidson, Lincoln Oil Prod. 3 5
E. & G. Davidson, Lincoln Oil Prod. 4 dry
E. G. Savage, Zev Oil 3 ... dry
Wells completed ... 8
Production ... 7
Dry ... 6
ALLEN COUNTY
Scottsville—Lon Oliver, Cyphus & Harley 4 ... dry
A. A. Davenport, J. B. Hinton 6 ... 2
Wells completed ... 2
Production ... 3
Dry ... 1
BARREN COUNTY
Glasgow—Morgan, Baird & Co. 2..... 3
Drinon, Ziegler Bros. 13 ... 8
Drinon, Ziegler Bros. 14 ... 5
P. Page, Russell Oil 1 ... 2
Lovelady, Houchins Leasehold 1 ... dry
Smith, Lew J. Emery, Jr., Sons 1.. dry
Depp-Greer, Lew J. Emery, Jr., Sons 23 ... 5
H. W. Duff, Consolidated Gas 14 ... dry
H. W. Duff ,Consolidated Gas 15 ... 4
Matthis, Baker & Co. 1 ... 3
Delond, Allen & Hartzel 3 ... 3
C. B. Jones, Esslinger Oil 1 ... 50
C. B. Jones, Esslinger Oil 2 ... 50
Wells completed ... 13
Production ... 133
Dry ... 3
OWENSBORO DISTRICT
(Hancock-Ohio-Daviess Counties)
Owensboro—Lon R. Helm, Clarence A. Leeper 6 ... 60
Orella Ralph, White Plains Oil & Gas 1 ... 15
Virgil Brown, White Plains O. & G. 1 dry
Mason, Ohio Oil 1 ... dry
Dave King, Greasy Creek Oil 7..... 2
Laura Mercer, Penn-Indiana Oil Synd. 1 ... 8
Dave King, Greasy Creek Oil 6.... 3
E. Morrison, Kentucky Oil 1 ... dry
R. R. Kelly, Wah-Shah-She Oil 1... dry
L. Howard, Davis County Oil 5.... dry
Wells completed ... 10
Production ... 88
Dry ... 5
CUMBERLAND-MONROE COUNTIES
Burkesville—O. E. Cheatham, Alta Oil 2 75
SIMPSON COUNTY
Franklin—John Pierce, McMullen & Reagle 2 ... 10
WAYNE COUNTY
Monticello—J. Cooper, Dillon & Wetzel 8 ... dry
John Flenn, Beaver Petroleum 3..... 4
Wells completed ... 2
Production ... 4
Dry ... 1
LEE-OWSLEY COUNTIES
Idamay—McGuire heirs, Tincher, Perdue & Co. 1 ... 100
LAWRENCE-JOHNSON COUNTIES
North Weir—J. J. Gambill, Swiss Oil Corp. 40 ... 20
P. P. Holbrook, Swiss Oil Corp. 36.. 10
G. Evans, Swiss Oil Corp. 14 7
Sanford Lyons, Swiss Oil Corp. 27 ... 20
Caney Sparks, Swiss Oil Corp. 9..... 2
Wells completed ... 5
Production ... 59
JOHNSON-MAGOFFIN COUNTIES
South Weir—Wm. Powers, Clyde Oil 2.. dry
W. L. May, Ky. Indiana Oil Trust 1 10
J. H. Arnett, Bed Rock Pet. 21 40
Floyd Hale, R. G. Gillespie 1..... 5
F. M. Hale, R. G. Gillespie 1 3
James Lane, Somerset Oil 12 4
Oscar Wheeler, Hudson & Collins 7.... 2
Wells completed ... 7
Production ... 64
Dry ... 1
ESTILL COUNTY
Irvine—John B. Rogers, Mt. Springs Oil 11 ... 5
John B. Rogers, Mt. Springs Oil 12.. 3
Garrett Tipton, Marcum & Howell 1 dry
S. M. Maple, Reno Oil 3 ... 10
A. K. Wagers, Miller & Chiles 5.... 1
A. K. Wagers, Miller & Chiles 6.... 1
A. K. Wagers, Miller & Chiles 7..... 1
Wells completed ... 7
Production ... 20
Dry ... 1
MORGAN COUNTY
Ophir—Jesse Cole, Eagle Oil 2 2
Kelley Owens, Wilson Oil 2 5
Willie Blanton, Conley Bros. 1..... 3
Wells completed ... 3
Production ... 10
JACKSON COUNTY
McKee—Isaac T. Sparks, Standard of Ky. 1 ... 8
WESTERN DIVISION
WARREN COUNTY
Wells Drilling
Bowling Green—Stone, Foster & Co. 8.
Keller, Al. F. Haynes 1.
Manning, Golden Flash Oil 4.
Ford, Roy Hogan 8.
J. T. Vance, Illinois-Ky. Synd. 8.
Shannon, Wiles & Co. 4.
Covington, Blk. 7, Wm. Zummer 10.
Worden, C. B. Tannehill 2.
J. M. Morgan, Moken Oil 5.
W. R. Price, Caskey & Prior 8.
Gillespie 50-a., American Nat. Bank 11.
J. T. Vance, Dr. W. B. Cauble & Co. 5.
C. E. Snell, Lincoln Oil Prod. 4.
James Dethridge, Twin River Oil 2.
Rigs, 0; wells drilling, 14; total, 14.
ALLEN COUNTY
Wells Drilling
Scottsville—Angel Meredith, G. W. Hahn 11.
E. Hinton, Clarion-Pittsburgh Oil 4.
G. W. Pearson, J. F. Wuerth 12.
Meader, W. H. White 3.
E. Newman, Bastrus & Co. 3.
W. B. Tabor, White Plains Oil & Gas 21.
S. & K. Thalton, Vic DeCalgney 7.
H. Ayres, Ziegler & Co. 1.
Lee Moore, Lee Moore 5.
Phoebe Oliver, American Nat. Bank 13.
Lon Oliver, Cyphus & Harley 5.
W. L. Motley, R. A. Stohr 6.
Rigs, 0; wells drilling, 12; total, 12.
BARREN COUNTY
Wells Drilling
Emery-Moore—Marshall, unknown 1.
Mayfield, Houchins Leasehold 4.
W. E. Steffey, T. L. Gorby & Co. 3.
Pitcock, Houchins Leasehold 20.
Gorby Pool—Maddox heirs, Harrington & Norris Bros. 2.
Depp, Consolidated Gas 13.
Chamberlain, J. W. Porter 1.
Richardson, Richardson Farm Oil 4, 5.
Cassaday, Hiland Oil & Gas 14.
Sanders, Jacob Best 5.
Depp-Greer, Lew J. Emery, Jr., Sons 24.
Walter Bales, T. L. Gorby & Co. 3.
Ellis, T. L. Gorby & Co. 1.
Whitney, Wood Oil 1.
Hall-Baker—Minnich, Keys Oil Corp. 1.
Poynter, Gumm & Messinger 1.
Ellis, Williams & Co. 2.
White, Glasgow Oil & Refg. 4.
White-Smith, Harrington & Norris Bros. 3.
Lecta Pool—Pedigo, Ziegler Bros. 1.
Keaton, Wood Oil 1.
Spencer, Gillespie & Wiggins 1.
Morton, Esslinger Oil 1.
C. B. Jones, Esslinger Oil 3.
Williamson, Norris Bros. 1.
Coral Hill—Morgan, Baird & Co. 3.
Tompkinsville Road—Matthis, Baker & Co. 2
Richardson Pool—Davidson, Houchins Leasehold 4.
Riley Serinneger, Wm. Christian 1.
Glasgow—Everett, Kopel Oil 2.
Richardson, Lew J. Emery, Jr., Sons 3.
Dickens, Lew J. Emery, Jr., Sons 3.
Rigs, 6; wells drilling, 33; total, 33.
OWENSBORO DISTRICT
(Hancock-Ohio-Daviess Counties)
Rigs
Owensboro—Lon R. Helm, C. A. Leeper 7.
Askins, Cornell & Son 1.
Guenther-Gant, W. F. Stevenson 1.
R. B. Powers, Wah-Shah-She Oil 2.
Wells Drilling
Owensboro—Will Howard, Petroleum Extraction 1.
Kirk-Woodward, Petroleum Extraction 1.
Lucinda Crowe, C. E. Daugherty & Co. 9.
J. J. Midkiff, White Plains Oil & Gas 2.
H. S. McBrayer, White Plains Oil & Gas 4.
J. W. McDaniel, Petroleum Extraction 1.
Burdette, White & Nicklin 8.
R. B. Powers, Wah-Shah-She Oil 1.
Myers, Ohio Oil 1.
Guenther-Gant, Chicago Pet. Synd. 3.
J. R. Ellis, Bolling & Loman Bros. 2.
John N. Swope, Penn-Indiana Synd. 12.
Laura Mercer, Penn-Indiana Synd. 2.
J. S. Colyer 100-a., Leeper Oil 1.
Ohio County—Near Taffy, Perry E. Tichenour 1.
Henderson County—Near Zion, Perry E. Tichenour 1.
Rigs, 4; wells drilling, 16; total, 20.
CUMBERLAND-MONROE COUNTIES
Wells Drilling
Kettle Creek—Cain, E. D. C. Lynch 2.
M. Kerr, A. S. McClintock, Atty., 10.
M. Blythe, Chas. A. Gartian Trus., 6.
Bedford Coffee, A. S. McClintock Atty 1.
L. R. Blythe, Bonnell & Co. 3
Pulsey Creek—J. M. Hughes, McClintock, Reed & Co. 3.
Bear Creek—Sarah Sheckles, Wilcox Bros. 6
T. L. Bow, Freeman & McCormick 6.
Sulphur Creek—C. C. Smith, McClintock Oil 10.
Davidson, Wilcox Bros. 1.
Crocus Creek—D. Baker, F. Waddle 1.
Brockman, Sam K. Baird 1.
Morgan, Sam K. Baird 1.
Galloway Creek—Hunter Short, Morris Petroleum 4.
Williams Prong—J. A. Melton, Wilcox Bros. 2.
J. Rush, Kanawha Oil 1.

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John Finley, Dr. Lang 1.
Rigs, 0; wells drilling, 17; total, 17.

ADAIR COUNTY
Wells Drilling
Hopewell Dist.—G. W. Brockman, Wood & Haislet 2.

HOPKINS COUNTY
Wells Drilling
Nortonville—Holleman, Copper-Flash Oil 14.

SIMPSON COUNTY
Wells Drilling
Franklin—Hogan, Small & Tully 11.
Slate, Slate Bros. 3.
John Pierce, McMullen & Reagle 3.
Rigs, 0; wells drilling, 3; total, 3.

GREEN COUNTY
Wells Drilling
Greensburg—Curry, T. S. Curry 1.
Tucker, United Carbon 1.
Rigs, 0; wells drilling, 2; total, 2.

EASTERN DIVISION
WAYNE COUNTY
Wells Drilling
Monticello—L. T. Guffey, Marsh & Shearer 2.
G. Y. Davis, Vulcan Oil 17.
Coffey heirs, Bell, Bell & Co. 3.
B. S. Huffaker, B. S. Huffaker 4.
Coffey-Oatts, Abbot & Porter 3.
Dabney, Wood Oil 1.
Rigs, 0; wells drilling, 6; total, 6.

LEE-OWSLEY COUNTIES
Wells Drilling
Idamay—Thos. Foreman, Standard Oil of Ky. 1.
Baker, Watkins & Co. 1.
Miller, Pruitt & Goff 10.
Unknown, Superior Oil Corp. 1.
Thos. Foreman Co., Rex-Pyramid Oil 1.
Dave Mays, heirs, Hupp, Duff & Co. 14.
H. D. Parrish, H. B. Sipple 3.
Wylie Bryant, Cook & Co. 2.
Flahaven Land, Ohio Oil 16.
E. L. Rogers, Superior Oil Corp. 12.
Rigs, 0; wells drilling, 10; total, 10.

KNOX COUNTY
Wells Drilling
Barbourville—Disney, Disney & McKee 1.
Red Bird Creek, Beattyville Parties 1.
Rigs, 0; wells drilling, 2; total, 2.

LAWRENCE-JOHNSON COUNTIES
Rigs
North Weir—J. J. Skaggs, Cumberland Petroleum 4.
Robt. Fyffe, Pluto Oil 6.
Ira Lester, W. M. Stone & Co. 11.
C. K. Osborne, Skaggs, Miller & Co. 1.
Wells Drilling
North Weir—Nora Lemaster, J. N. Meeks, Trustee, 4.
Devils Fork, W. E. Schwartz 1.
L. T. Sparks, Garrison & Townsend 9.
J. D. Bond, J. T. Hare & Son 3.
Jess Lyon, Keaton Oil & Gas 31.
Rigs, 4; wells drilling, 5; total, 9.

JOHNSON-MAGOFFIN COUNTIES
Rigs
South Weir—W. H. Collins, Petroleum Exploration 3.
Eliza Powers, Clyde Oil 6.
Bailey heirs, Cobb & Lucas 7.
Wells Drilling
South Weir—Cholley Conley, Ky.-Indiana Oil Trust 7.
W. H. Conley, Bed Rock Petroleum 30.
W. E. Patrick, Bed Rock Petroleum 5.
Mary Burke, R. G. Gillespie 7.
J. M. Frazier, Short Fork Oil 3.
Coon Adams, Oliver Jenkins 1.
Rigs, 3; wells drilling, 6; total, 9.

FLOYD COUNTY
Wells Drilling
Beaver Creek—Mouse Martin, Ohio F. O. 3.
Elkhorn Coal, Ohio Fuel Oil 5.
Mary Martin, Louisville Gas & Electric 3.
T. Martin, Louisville Gas & Electric 4.
T. Allen, New Domain Oil & Gas 5.
Jack Turner heirs, Eastern Carbon Black 3.
Maude Conley, Eastern Carbon Black 3.
Rigs, 0; wells drilling, 7; total, 7.

ESTILL COUNTY
Wells Drilling
Irvine—Reid heirs, C. O. Amsler & Co. 3.
C. B. Howell, Marcum & Howell 2.
Owen Puckett heirs, Superior Oil Corp. 3.
Rigs, 0; wells drilling, 3; total, 3.

WOLFE COUNTY
Wells Drilling
Torrent—P. M. G. Petroleum Exploration 12.

MORGAN COUNTY
Wells Drilling
West Liberty—Pleasant Run, Jim Patton 1.
Blair Mills, Collier & Co. 1.
Ophir—Kelley Owens, Willson Oil 3.
Willie Blanton, Conley Bros. 2.
Jesse Cole, Eagle Oil 3.
Rigs, 0; wells drilling, 5; total, 5.

ELLIOTT COUNTY
Rigs
Sandy Hook—D. A. Lewis, Smith & Garrison 2.
Wells Drilling
Sandy Hook—John Dials, Edra Lee Oil & Gas 5.
Lincoln Creek—Joe Wagner, J. M. McDonald 1.
Rigs, 1; wells drilling, 2; total, 3.

MENIFEE COUNTY
Wells Drilling
Leatherwood—Widow Reed, McKinney Bros. 1.
Hamp Rawlings, W. O. Back 3.
Rigs, 0; wells drilling, 3; total, 3.

LAUREL COUNTY
Wells Drilling
London—Wildcat, Standard Oil of Ky. 1.

JACKSON COUNTY
Wells Drilling
McKee—Isaaca, Standard Oil of Ky. 1.

TENNESSEE
CLAY-JACKSON COUNTIES
Wells Drilling
Tinsley's Bottom—Hamp Lynn, Dafoe & Co. 8, 9.
Hamilton, C. F. Dickson 1.
Rigs, 0; wells drilling, 3; total, 3.

MORGAN COUNTY
Wells Drilling
Sunbright—Sommers, Cockerel & Co. 1.
Glades, Knoxville Parties 2.
Fee, Russell Producing 7.
Rigs, 0; wells drilling, 3; total, 3.

OVERTON COUNTY
Wells Drilling
Livingstone—Windle, Duncan & Co. 1.

MISSISSIPPI
FRANKLIN COUNTY
Rigs
Jackson—Pear River, New York Parties 1.

COPIAH COUNTY
Rig
Hazelhurst—Brandywine, B. W. White 1.

HOLMES COUNTY
Rig
Coxburg—18-13-1, Freeun Oil 1.

YAZOO COUNTY
Wells Drilling
Eden—Reed, 25-13-1, west, Willis & Burns 1.

CLAIBORNE COUNTY
Wells Drilling
Port Gibson—5-11-2, Young, Mississippi Exploration 1.
West Side, Michael Zink 1.
Rigs, 0; wells drilling, 2; total, 2.

HINDS COUNTY
Wells Drilling
Jackson—Reeder, Johnson Oil 1.

WASHINGTON COUNTY
Wells Drilling
Glen Allen—30-14-9, Williams, Alhambra Oil & Gas 1.

TISHIMINGO COUNTY
Wells Drilling
Iuka—Unknown parties 1.

TALLAHATCHIE COUNTY
Wells Drilling
Charleston — 23-25-2, Harvey, Shreveport parties 1.

MARSHALL COUNTY
Wells Drilling
Holly Springs—3-32-3, Hoffman, Tom B. Slick 2.

ALABAMA
MORGAN COUNTY
Wells Drilling
Albany—6-6-4, English, Albany-Decatur Oil 1.

HALE COUNTY
Wells Drilling
Greensburg—Hale Oil 1.

SHELBY COUNTY
Wells Drilling
Chelsea—Scott, Cooksey Oil 1.

WILCOX COUNTY
Wells Drilling
Selma—Blue Belle Oil 1.

GEORGIA
PULASKI COUNTY
Rigs
Hawkensville—Florida Const. 1.

JEFF DAVIS COUNTY
Wells Drilling
Hazelhurst—Mid-Georgia Oil 1.

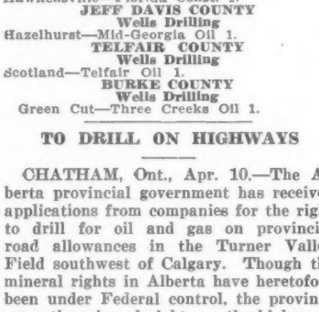
TELFAIR COUNTY
Wells Drilling
Scotland—Telfair Oil 1.

BURKE COUNTY
Wells Drilling
Green Cut—Three Creeks Oil 1.

TO DRILL ON HIGHWAYS

CHATHAM, Ont., Apr. 10.—The Alberta provincial government has received applications from companies for the right to drill for oil and gas on provincial road allowances in the Turner Valley Field southwest of Calgary. Though the mineral rights in Alberta have heretofore been under Federal control, the province owns the mineral rights on the highways.

The situation is complicated, from a private development viewpoint, by Dominion regulations which prevent wells being drilled on Federal leases within 200 feet of road allowances. It is claimed that this regulation would have no bearing on drilling, duly sanctioned by the province, on the road allowances themselves.



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A Classified Index of Advertisers in This Publication

For Alphabetical Index See Page 35

A

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Braun, C. F., & Co.
Campbell, J. A.
Cooper, C. & G. Co.
Griscom-Russell Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Absorption Towers—
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.

Acetylene Apparatus—
Oxweld Acetylene Co.

Acetylene—Dissolved—
Prest-O-Lite Co., Inc.

Acetylene in Cylinders—
Prest-O-Lite Co., Inc.

Agitators—
Chicago Bridge & Iron Works.
Kaw Boiler Works Co.
Petroleum Iron Works Co.

Air Compressors (See Compressors—Air)—

Alloy Steel (See Steel—Alloy)—

All-Steel Drilling Rigs (See Rigs)

Aluminum Bronze Powder for Paint—
Aluminum Co. of America.

Ammonia—
Matthieson Alkali Works, Inc.

Anchor Clamps (See Clamps)—

Antimonial Leads—
Eagle Picher Lead Co.

Apparatus—Electric—
Westinghouse Electric & Mfg. Co.

Apparatus—Motor Control—
Westinghouse Electric & Mfg. Co.

Appraisers—
American Appraisal Co.

Arches—Flat Suspended—
Brady Conveyor Corp.

B

Babbitts—
Eagle-Picher Lead Co.
Ryerson, Jos. T. & Sons, Inc.

Back Up Tongs (See Tongs)—

Bailers—
Oil Well Supply Co.
Spang & Co.

Balls and Seats—
Axelson Machine Co.
Hough, Charles N., Mfg. Co.
Norris Brothers, Inc.
Northrup Equipment Co.

Balls—Bronze—
Atlas Ball Co.
Hoover Steel Ball Co.

Balls—Steel—
Atlas Ball Co.
Hoover Steel Ball Co.
Strom Steel Ball Co.

Band Wheels—Steel—
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C. & Co., Inc.
Parkersburg Rig & Reel Co.

Barrels—
Petroleum Iron Works Co.

Batteries—
National Carbon Co.

Bearings—Roller—
American Roller Bearing Co.
Timken Roller Bearing Co.

Bearings—Thrust—
Timken Roller Bearing Co.

Belting—
Bridgeport Machine Co.
Continental Supply Co.
Fenwick-Reddaway Mfg. Co.
Frick-Reid Supply Co.
Imperial Belting Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Murray Rubber Co.
Stanley Belting Corp.

Belting—Rubber—
Bovaird Supply Co.
Goodyear Tire & Rubber Co.
United States Rubber Co.

Belt Lacing—
Flexible Steel Lacing Co.

Bits—Disc—
U. S. Tool Co.

Bits—Fish Tail—
Federal Supply Co.
Lucey Mfg. Corp.

Bits—Rotary Disc—
Hughes Tool Co.

Bits Rotary Rock—
Hughes Tool Co.
Reed Roller Bit Co.

Bit Steel (See Steel—Bit)—

Bleaching Powder—
Mathieson Alkali Works, Inc.

Blow-off Valves (See Valves)—

Blowout Preventer—
Regan Forge & Engineering Co.
Stearns-Roger Mfg. Co.

Blowpipes—
Oxweld Acetylene Co.

Boiler Feed Pumps (See Pumps)

Boilers—Horizontal Return Tubular—
Brownell Co., The
Kewanee Boiler Co.
Vogt, Henry, Machine Co.

Boilers—Oil Country—
Bovaird & Seyfang Mfg. Co.
Brideport Machine Co.
Brownell Co., The
Coatesville Boiler Works.
Continental Supply Co.
Donovan Boiler Works.
Frick-Reid Supply Co.
International Supply Co.
Kewanee Boiler Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Republic Supply Co.
Titusville Iron Works.

Bolted Tank (See Tanks)—

Bolts and Nuts—
Sheffield Steel Corp.

Bolt Threading Machines—
Landis Machine Co.
Oster Mfg. Co.

Bottles—Glass—
Illinois Glass Co.

Box and Pin Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Braces—Tool—
Dunn Mfg. Co.

Break Out Tongs (See Tongs)—

Briquetting Machines—
Simplex Equipment Co.

Bronze Valve (See Valves—Brass and Bronze)—

Buildings—Metal, Sectional (All Types)—
Austin Co.
Braden Co.
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International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Swartwout Co.
Truscon Steel Co.

Bulk Station Tanks (See Tanks)

Bull Ropes—
Ajax Rope Co., Inc.
Columbian Rope Co.
Plymouth Cordage Co.
Wall Rope Works, Inc.

Bull Wheels—Steel—
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
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Burners—Gas—
Okmulgee Boiler & Welding Works.

Burners—Oil—
Baker Motors, Inc.
Continental Supply Co.
Reid, Joseph, Gas Engine Co.

Bushings—Rotary Drive—
Wilson Oil Tools Corp.

C

Cable Bit Steel—
Andrews Steel Co.
Federal Supply Co.
Heppenstall Forge & Knife Co.

Cables—Drilling, Manila—
Ajax Rope Co., Inc.
Columbian Rope Co.
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Cables—Steel—
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Ajax Rope Co., Inc.

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Braden Co.

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North American Car Co.
Shippers' Car Line, Inc.

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South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.

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Byers, A. M. Co.
Reading Iron Co.
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Casing Elevators (See Elevators, Casing and Tubing)—

Casinghead Gasoline Equipment—(See Natural Gasoline Plant Equipment)—

Casing Heads—
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Dresser, S. R., Mfg. Co.
Kansas City Hay Press Co.
Oil Well Improvements Co.

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Casing Packers (See Packers)—

Casing Pulleys (See Pulleys)—

Casing Shoes—
Baker Casing Shoe Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Guiberson Corp.
Oil Well Supply Co.

Casing Tongs (See Tongs)—

Castings—Alloy Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Brass—
Progressive Brass Mfg. Co.

Castings—Chrome Nickel Steel—
Sivyer Steel Casting Co.

Castings—Corrosion Resisting Non Ferrous—
Hills-McCanna Co.

Castings—Electric Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Grey Iron—
Ajax Iron Works.
American Car & Foundry Co.
Cunningham Co.
Gaso Pump & Burner Mfg. Co.
Pittsburgh Boiler & Machine Co.

Castings—Steel—
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Chicago Steel Foundry Co.
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Cement—Fire and High Temperature—
Botfield Refractories Co.

Cement—Portland—
Monarch Cement Co.

Centrifugal Pumps (See Pumps)

Chain Pipe Tongs (See Tongs)—

Chains—Conveying—
Chain Belt Co.
Link-Belt Co.

Chains—Oil Well—
Baldwin Chain & Mfg. Co.
Chain Belt Co.
Link-Belt Co.
Lufkin Fdy. & Machine Co.

Chains—Power Transmission—
Baldwin Chain & Mfg. Co.
Chain Belt Co.
Link-Belt Co.

Check Valves (See Valves)—

Chemical Glassware for Laboratory Use (See Glassware)—

Chemical Treatment Crude Oil Emulsion—
Barnickel, Wm. S., & Co.

Chlorine—Liquid—
Mathieson Alkali Works, Inc.

Chrome Nickel Steel Castings (See Castings)—

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Wilson Oil Tools Corp.

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Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Clamps—River—
Dresser, S. R., Mfg. Co.
Gaso Pump & Burner Mfg. Co.

Cloths—Wiping—
Nye Tool & Machine Works.

Clutches—Friction, Plate Type—
Twin Disc Clutch Co.

Cocks—Brass and Iron—
Lunkenheimer Co.
Walworth Mfg. Co.

Cocks—Plug—
Homestead Valve Mfg. Co.

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Smith Separator Co.

Coils and Bends—Pipe—
Harrisburg Pipe & Pipe Bending Co.
Midwest Piping & Supply Co.

Collar Leak Clamps—(See Clamps)

Compounds—Boiler—
Dearborn Chemical Co.

Compounds—Joint Sealing—
Key Boiler Equipment Co.

Compressor Cylinders (See Cylinders—Compressor)—

Compressors—Air—
Bessemer Gas Engine Co.
Clark Brothers Co.
Cooper, C. & G. Co.
Gardner Governor Co.
Ingersoll-Rand Co.
Sullivan Machinery Co.

Compressors—Ammonia—
Carbondale Machine Co.
Cooper, C. & G., Co.

Compressors—Direct Connected Motor and Gas Engine Driven
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Miller Improved Gas Engine Co.

Compressors—Direct Driven Air and Gas—
Bessemer Gas Engine Co.
Miller Improved Gas Engine Co.

Compressors—Gas—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Worthington Pump & Machinery Corp.

Condenser Boxes—
Kaw Boiler Works Co.
Petroleum Iron Works Co.

Condensers—
American Radiator Co.
Chicago Pneumatic Tool Co.
National Gas Products Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Consulting and Contracting Engineers (See Engineers)—

Controllers—Liquid Level—
Fisher Governor Co., Inc.
Newton Process Mfg. Co.
Smith Separator Co.

Controllers—Pressure—
Smith Separator Co.

Controllers—Temperature —
Brown Instrument Co.
Foxboro Co., Inc.
Taylor Instrument Co.

Conveying & Elevator Machinery—
Brady Conveyers Corp.

Conveyors—Bucket and Belt—
Brady Conveyors Corp.

Conveyors—Pneumatic—
Brady Conveyors Corp.

Conveyors—Portable Belt—
Barber-Greene Co.

Cooling Towers—Atmospheric—
Braun, C. F. & Co.
National Gas Products Co.

Cordage—
Bridgeport Machine Co.
International Supply Co.
Plymouth Cordage Co.

Core Drilling—
Longyear, E. J., Co.
Mineral Exploration Co.
Spengler Core Drilling Co.

Core Drills—Diamond—
Longyear, E. J., Co.
Sullivan Machinery Co.

Coring Tools—
Reed Roller Bit Co.
Spengler Core Drilling Co.
Wilson Oil Tools Corp.

Couplings—Flexible—
Nuttall, R. D., & Co.

Couplings—Plain End Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Couplings—Seamless Steel—
Harrisburg Pipe & Pipe Bending Co.
Smith, A. O., Corp.
Superior Tube Co.

Couplings—Steel for Casing, Line Pipe, Drill Pipe and Tubing—
Dayton Pipe Coupling Co.

Cracking Processes—
Graver Corp.
Kellogg, M. W., Co.
Universal Oil Products Co.

Crawler Treads—
Full Crawler Co.

Crown Blocks—
International Derrick & Equipment Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
Moore, Lee C., & Co., Inc.
Parkersburg Rig & Reel Co.

Cups—Composition—
Williamsport Development Co.

Cups—Leather—
Auer, C. A.

Cutters—Pipe—
Borden Co.
Nye Tool & Machine Works.
Trimont Mfg. Co.

Cylinders—Compressor—
Hope Engineering & Supply Co.

Cylinder Stocks—
Barnsdall Refining Co.
Pure Oil Co.
Texas Company, The

D

Dehydrating Process—
Barnickel, Wm. S., & Co.

Dephlegmators—
National Gas Products Co.
Newton Process Mfg. Co.

Depletion Reports—
American Appraisal Co.

Derricks—Steel—
Emsco Derrick & Equip. Co.
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C., & Co., Inc.
O'Brien Steel Construction Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Derricks—Turnbuckle—
National Turnbuckle Derrick Co.

Diamond Core Drills (See Core Drills—Diamond—

Diamonds for Core Drilling (See Carbon—Black Diamond)—

Die Heads—Automatic Screw Cutting—
Landis Machine Co.

Die Heads—Bolt Threading—
Bignall & Keeler Machine Works.
Landis Machine Co.

Die Heads—Stationary Pipe Threading—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Standard Engineering Co.

Diesel Engines (See Engines)—

Dies—Pipe Threading—
Bignall & Keeler Machine Works.
Cox & Sons. Co., The
Landis Machine Co.
Nye Tool & Machine Works.
Standard Engineering Co.

Differential Pressure Recorders (See Recorders)—

Direct Driven Pumps (See Pumps)

Disc Bits (See Bits—Disc)—

Dissolved Acetylene (See Acetylene)—

Distillate—
Acme Petroleum Co.

Ditchers—Pipe Line—
Barber-Greene Co.
Buckeye Traction Ditcher Co.

Draw Works—
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Titusville Iron Works Co.

Drillers Hose (See Hose)—

Drilling and Fishing Tools—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bovaird & Seyfang Mfg. Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Brown Tool Co., Inc.
Burns Tool Co.
Continental Supply Co.
Cushing, Tim, Tool Co.
Emsco Derrick & Equip. Co.
Hinderliter Tool Co.
Hughes Tool Co.
International Supply Co.
Larkin & Co.
Leidecker Tool Co.
Lucey Mfg. Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Spang & Co.
Star Drilling Machine Co.
U. S. Tool Co.

Drilling Engines (See Engines)—

Drilling Equipment—
Clark Brothers Co.
Hughes Tool Co.
O'Brien Steel Construction Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Star Drilling Machine Co.

Drilling Gate Valves (See Valves)

Drilling Machines—
Leidecker Tool Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Drilling Tools (See Drilling and Fishing Tools)—

Drilling Valves (See Valves)—

Drills—Portable Air—
Chicago Pneumatic Tool Co.

Drive Shoes—
Bartlesville Supply Co.
Larkin & Co.

Drop-Forged Wrenches (See Wrenches)—

Drops and Seats—
Norris Brothers, Inc.

Drums (See Barrels)—

Dynamos—
Westinghouse Electric & Mfg. Co.

E

Electrical Equipment—
Fairbanks-Morse & Co.
Pyle National Co.
Wico Electric Co.

Electric Apparatus (See Apparatus—Electric)—

Electric Drilling Equipment—
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

Electric Steel Castings — See Castings—Electric Steel)—

Elevators—Casing and Tubing—
Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Wilson Oil Tools Corp.

Elevators—Rod—
B. & A. Specialty Co.
D & B Pump & Supply Co.
Dunn Mfg. Co.

Enamels—
Arco Company, The
Sherwin-Williams Co.

Engineers—Consulting and Contracting—
Brooks Engineering Corp.
Hope Engineering & Supply Co
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Power Specialty Co.
Westcott & Greis.
Widdell Engineering Co.

Engineers—Fire Protection—
Brooks Engineering Corp.
Foamite-Childs Corp.
Engineers—Oil Buildings—
Austin Co.
International Derrick & Equipment Co.
Engineers—Oil Treating—
Barnickel, Wm. S., & Co.
National Gas Products Co.
Engines—Crude Oil—
Continental Supply Co.
Western Machinery Co.
Engines—Diesel —
Bessemer Gas Engine Co.
Busch-Sulzer Bros. Diesel Engine Co.
Foos Gas Engine Co.
McIntosh & Seymour Corp.
Western Machinery Co.
Worthington Pump & Machinery Corp.
Engines—Drilling—
Ajax Iron Works.
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bovaird & Seyfang Mfg. Co.
Brownell Co., The
Buda Co.
Buffalo Gasolene Motor Co.
Clark Bros. Co.
Climax Engineering Co.
Franklin Valveless Engine Co.
Hercules Motor Corp.
Lufkin Foundry & Machine Co.
Pattin Bros. Co.
Power Mfg. Co.
Republic Supply Co.
Titusville Iron Works Co.
Engines—Gas—
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bruce-MacBeth Engine Co.
Buda Co.
Buffalo Gasolene Motor Co.
Chicago Pneumatic Tool Co.
Clark Bros. Co.
Climax Engineering Co.
Continental Supply Co.
Cooper, C. & G., Co.
Emsco Derrick & Equipment Co.
Foos Gas Engine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jones, S. M., Co.
Marion Mch., Fdy. & Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Western Machinery Co.
Engines—Gasoline—
Beaver Manufacturing Co.
Buda Co.
Buffalo Gasolene Motor Co.
Continental Motors Corp.
Fairbanks-Morse & Co.
International Harvester Co. of America.
Novo Engine Co.
Waukesha Motor Co.
Western Machinery Co.
Engines—Oil—
Bessemer Gas Engine Co.
De La Vergne Machine Co.
Fairbanks-Morse & Co.
Franklin Valveless Engine Co.
International Harvester Co. of America.
Ingersoll-Rand Co.
McIntosh & Seymour Corp.
National Supply Co.
Oil Well Supply Co.
Power Mfg. Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.
Engines—Rotary—Steam—
Baker Motors, Inc.
Engines—Semi-Diesel, Oil—
Chicago Pneumatic Tool Co.
Engines—Steam—
Ajax Iron Works.
Baker Motors, Inc.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Evaporators—
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Extinguishers—Fire—
Amdyco Corp.
Foamite-Childs Corp.

F

Fabricators for Gasoline Plants and Refineries—
National Gas Products Co.
Stokes-Roger Mfg. Co.
Filters—Oil—
Burt Mfg. Co.
Fishing Tools (See Drilling and Fishing Tools)—
Fittings—Dropped Forged Steel—
Vogt, Henry, Machine Co.
Fittings—Malleable & Cast Iron—
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Kelly & Jones Co.
Walworth Mfg. Co.
Fittings—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. B., Mfg. Co.
Gasc Pump & Burner Mfg. Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Lufkin Foundry & Machine Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.
Fittings—Steel—
Dayton Pipe Coupling Co.
Kelly & Jones Co.
Kerotest Mfg. Co.
Ohio Steel Foundry Co.
Flanges—Brass, Iron and Steel—
Jefferson Union Co.
Kelly & Jones Co.
Metric Metal Works.
Flange Unions—
Gasc Pump & Burner Mfg. Co.
Flashlights—
National Carbon Co.
Floating Roofs and Decks—
Chicago Bridge & Iron Works.
Floodlights—
Pyle-National Co.
Forging Billets—
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.
Forgings—
Champion Machine & Forging Co.
Milwaukee Forge & Machine Co.
Friction Clutch Pulleys (See Pulleys)—
Fuel Oil (See Oil—Fuel)—
Fuller's Earth—
Sinclair Refining Co.

G

Gas Compressors (See Compressors—Gas)—
Gas Engines (See Engines—Gas)
Gas Holders—
Chicago Bridge & Iron Works.
Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.
Gaskets—Fibre—
Durabla Mfg. Co.
Gas Masks & Safety Appliances—
Mine Safety Appliance Co.
Gas Meters (See Meters)—
Gas Oil (See Oil—Gas)—
Gasoline—
Berry's James B. Sons Co.
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Gasoline—Natural—
Chestnut & Smith Corp.
National Gas Products Co.
Warren Petroleum Co.
Gasoline Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Widdell Engineering Co.
Gas Regulator Casinghead—
Davis, G. M., Regulator Co.
National Gas Products Co.
Gas Scrubbers—
National Gas Products Co.
Newton Process Mfg. Co.
Gauge Glass—High Pressure—
Durabla Mfg. Co.
Gauge Poles—
Marsh Gauge Pole Co.
Gauges—Automatic Tank—
Brooks Engineering Co.
Gauges—Pressure and Vacuum—
Bristol Co.
Equitable Meter & Mfg. Co.
Metric Metal Works.
Gauge Tests—
Equitable Meter & Mfg. Co.
Metric Metal Works.
Gear Driven Pumps (See Pumps)
Gears—Cut—
Nuttall, R. D., & Co.
Gears—Reduction—
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.
Gears—Reverse—
Emsco Derrick & Equipment Co.
Generators—
Westinghouse Electric & Mfg. Co.
Generators—Acetylene—
Oxweld Acetylene Co.
Generators—Steam—
Baker Motors, Inc.
Generators—Turbine—
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.
Glass Bottles (See Bottles, Glass)
Glassware—Chemical for Laboratory Use—
Illinois Glass Co.
Governors—
Equitable Meter & Mfg. Co.
Gardner Governor Co.
Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.
Grey Iron Castings (See Castings)

H

Hammers—Chipping and Calking Pneumatic—
Chicago-Pneumatic Tool Co.
Hammers—Riveting Pneumatic—
Chicago Pneumatic Tool Co.
Hangers—Iron and Steel—
Continental Supply Co.
Dodge Mfg. Corp.
Hatches—Gauge and Thief—
Oil Conservation Engineering Co.
Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
Heat Interchangers—Fluid—
Braun, C. F., & Co.
Ross Heater & Mfg. Co., Inc.
High Pressure Gate Valves (See Valves)—
Hoists—Pneumatic, Geared and Universal—
Yale & Towne Mfg. Co.
Hoists—Portable—
Ford Chain Block Co.
Sullivan Machinery Co.
Wright Mfg. Co.
Yale & Towne Mfg. Co.
Hooks for Rods and Tubing—
B. & A. Specialty Co.
Dunn Mfg. Co.
Hose—
Fenwick-Reddaway Mfg. Co.
Hose—Drillers—
Goodrich, B. F., Rubber Co.
United States Rubber Co.
Hose—Oil Suction and Discharge
Goodrich, B. F., Rubber Co.
United States Rubber Co.
Hose—Rubber—
Goodyear Tire & Rubber Co.
United States Rubber Co.
Hot Rolled Strip Steel (See Steel)
Hydraulic Gate Valves (See Valves)—
Hydraulic Jacks (See Jacks)—
Hypochlorite of Lime—
Mathieson Alkali Works, Inc.

I

Insulation Materials—
Celite Products Co.
Johns-Manville, Inc.
Insurance—Fire—
Oil Insurance Association.
Insurance—Tornado—
Oil Insurance Association.
Iron—Ingot—
American Rolling Mill Co.

J

Jacks—Hydraulic—
Bridgeport Machine Co.
Jacks—Lifting—
Templeton, Kenly & Co., Ltd.
Jacks—Pumping—
American Wells Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Norris, W. C.
Spang & Co.
Jars—
Arbon, Paul, & Co.
Bridgeport Machine Co.
Spang & Co.
Jar Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

K

Kerosene—
Acme Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Skelly Oil Co.

L

Lacquers—
Arco Company, The
Sherwin-Williams Co.
Lanterns—Electric—
Delta Electric Co.
Lead and Mixed Metal Products—
Eagle-Picher Lead Co.
Lead in Oil—
Eagle-Picher Lead Co.
National Lead Co.
Lead Wool and Containers—
Eagle-Picher Lead Co.
Lifting Jacks (See Jacks)—
Lighting Equipment—
Pyle National Co.
Westinghouse Electric & Mfg. Co.
Liquid Level Controls (See controllers)—
Litharge—
Eagle-Picher Lead Co.
National Lead Co.
Loaders—Trucks—
Barber-Greene Co.
Long Distance Telephone—
American Telephone & Telegraph Co.
Lubricating Devices—
McCord Radiator & Mfg. Co.
Lubricating Oils (See Oils)—
Lubricators—
Ajax Iron Works.
Lunkenheimer Co.
Lubricators—Force Feed—
Manzel Brothers Co.
McCord Radiator & Mfg. Co.

M

Machine Tools—
Ryerson, Jos. T., & Sons, Inc.
Manholes—Tank—
Brooks Engineering Corp.
Manifolds—
Reid, Joseph, Gas Engine Co.
Meters—Gas—
Equitable Meter & Mfg. Co.
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis.
Meters—Gasoline—
Pittsburgh Meter Co.
Meters—Oil—
Pittsburgh Meter Co.
Molded Goods—Rubber—
Goodyear Tire & Rubber Co.
Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.
Motors—Gasoline (See Engines—Gasoline)—
Motor Trucks (See Trucks—Motor)—

N

Naphtha—
Pure Oil Co.
Natural Gasoline (See Gasoline—Natural)—
Natural Gasoline Plant Equipment
American Tank Co.
Campbell, J. A.
Cooper, C. & G., Co.
Griscom-Russell Co.
National Gas Products Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Westcott & Greis.
Nitrogen—
Linde Air Products Co.
Nozzles—Spray—
Power Plant Equip. Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.
Oil Burners (See Burners—Oil)—
Oil Engines, Semi-Diesel (See Engines—Semi-Diesel Oil)—
Oil Field Equipment—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Cunningham Co.
Gasc Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Boiler Works Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.
Oil Filters —(See Filters—Oil)—
Oil—Fuel—
Acme Petroleum Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The
Oil—Gas—
Acme Petroleum Co.
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The
Oil—Lubricating—
Barnsdall Refining Co.
Berry's James B., Sons Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pennzoil Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Texas Company, The
Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pennzoil Co.
Pure Oil Co.
Skelly Oil Co.
Oiling Devices—
Lunkenheimer Co.
Oil Meters (See Meters)—
Oil Piping Equipment (See Fittings)—
Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.
Oil Refinery Equipment (See Refinery Equipment)—
Oil Securities (See Securities)—
Oil Suction and Discharge Hose—(See Hose)—
Oil Well Cementing—
Halliburton, Erle P.
Oil Well Screens (See Screens)—
Oil Wells Tools—
D & B Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.
Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.
Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.
Packing—
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.
Packing—Metallic—
Crane Packing Co.
Paint Guns—
Binks Spray Equipment Co.
Painting Equipment—Mechanical (See Hose)—
Matthews, W. N., Corp.
Paints—
Aluminum Co. of America.
American Asphalt Paint Co.
Arco Company, The
Cook Paint & Varnish Co.
Dixon, Joseph Crucible Co.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Sherwin-Williams Co.
St. Louis Surfacer & Paint Co.
Pipe—Cast Iron—
American Cast Iron Pipe Co.
Greenspon's, Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co.
Pipe—Lead Chemical and Antimonial—
Eagle-Picher Lead Co.
Pipe—Steel—
Continental Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Sons, Inc.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Pipe—Wrought Iron—
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
Superior Tube Co.
Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons, Inc.
Standard Engineering Co.
Pipe Clamps (See Clamps—Pipe)
Pipe Fittings (See Fittings)—
Pipe Grips—
Larkin & Co.
Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.
Pipe Line Construction Tools—
National Transit Pump & Machine Co.
Pipe Line Ditchers (See Ditchers)
Pipe Line Equipment—
Gasc Pump & Burner Mfg. Co.
Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
Pipe Suspension Device—
Stearns-Roger Mfg. Co.
Pipe Threading Dies (See Dies)—
Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works.
Piping—Fabricated—
Kelly & Jones Co.
Midwest Piping & Supply Co.
Piping—Hard Rubber—
United States Rubber Co.
Piping—Steel & Iron—
Crane Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Power Piping Co.
Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.
Pistons—Expansion—
Wilson Oil Tool Corp.
Pistons—Slush Pump—
Guiberson Corp.
Plugs—Bottom Water—
Guiberson Corp.
Polish Rods (See Rods—Polish)—
Portable Drilling Rigs (See Rigs)
Power Pumps (See Pumps)—
Power Units—Portable (See Engines)—
Pre-Heaters—
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Preservatives—Asphalt—
American Asphalt Paint Co.
Pulleys—Wood, Iron and Steel—
Continental Supply Co.
Dodge Mfg. Co.
Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.
Pumpers—Long Stroke—
Farley Machine Co.
Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.
Pumping Equipment—
American Well Works.
Axelson Machine Co.
Bryson Jackson Pump Mfg. Co., Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Gould's Mfg. Co.
Jones, S. M., Co.
Myers, P. E., Bros. & Co.
Northrup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P., Co.
Waukesha Motor Co.
Pumping Gear Units—
Nuttall, R. D., & Co.
Pumping Jacks (See Jacks)—
Pumping Powers—
Aldrich Pump Co.
Bessemer Gas Engine Co.
Buda Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.
Pumps—Boiler Feed—
Ajax Iron Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Oil Well Supply Co.
Pumps—Centrifugal—
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Deane Hill Pump Co.
Fairbanks-Morse & Co.
Worthington Pump & Machinery Corp.
Pumps—Direct Driven—
Aldrich Pump Co.
Bessemer Gas Engine Co.
Pumps—Electric—
Prescott Co.
Pumps—Fuel Oil Service—
Aldrich Pump Co.
Blackmer Pump Co.
Northern Fire Apparatus Co.
Pumps—Fuel Oil Transfer—
Aldrich Pump Co.
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Pumps—Gasoline and Oil for Filling Stations—
Gilbert & Barker Mfg. Co.
Pumps—Gear Driven—
Aldrich Pump Co.
Gasc Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.
Pumps—Hot Oil—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Pumps—Pipe Line—
Aldrich Pump Co.

Byron Jackson Pump Mfg. Co., Inc.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
National Transit Pump & Machine.
Prescott Co.
Worthington Pump & Machinery Corp.

Pumps—Power—
Aldrich Pump Co.
Dean Brothers Co.
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Prescott Co.
Waukesha Motor Co.

Pumps—Refinery—
Aldrich Pump Co.
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Kinney Mfg. Co.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.

Pumps—Rotary—
Blackmer Pump Co.
Northern Fire Apparatus Co.
Roots, P. H. & F. M., Co.

Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.

Pumps—Slush—
Gardner Governor Co.

Pumps—Steam—
Dean Brothers Co.
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.

Pumps—Suction—
Gaso Pump & Burner Mfg. Co.

Pumps—Vacuum—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.

Pumps—Water—
Aldrich Pump Co.
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Northern Fire Apparatus Co.
Prescott Co.

Purifiers—Oil Absorption—
Shaleless Specialty Co.

Pyrometers—
Brown Instrument Co.
Republic Flow Meters Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.

Ratchet Pipe Threaders—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Ratchet Reamers—
Nye Tool & Machine Works.

Ratchet Stocks and Dies—
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Receiving Boxes—
Reid, Joseph, Gas Engine Co.

Recorders—Differential Pressure—
Equitable Meter & Mfg. Co.
Metric Metal Works.

Refinery Equipment—
American Radiator Co.
Braun, C. F., & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works.
Graver Corp.
Griscom-Russell Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries.
Smith, A. O., Corp.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.
Widdell Engineering Co.

Refractories—Furnace, Stills and Baffles—
Botfield Refractories Co.
National Gas Products Co.

Refrigerating Machinery—
Carbondale Machine Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

Regulators—
Fisher Governor Co., Inc.
Smith Separator Co.

Regulators—Gas—
Chaplin-Fulton Mfg. Co.
Davis, G. M., Regulator Co.
Equitable Meter & Mfg. Co.
Fisher Governor Co.
Metric Metal Works.
National Gas Products Co.
Smith Separator Co.

Rental Service—
Bridgeport Machine Co.

Reversible Clutches—
Bessemer Gas Engine Co.

Rig Irons—
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rigs—Drilling, All Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

River Clamps (See Clamps)—

Rods—Polish—
Jones, S. M., Co.

Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.

Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffield Steel Corp.

Rods—Valve—
Jones, S. M., Co.

Roofing—Asbestos—
Johns-Manville, Inc.

Rope Socket Metal—
Eagle-Picher Lead Co.

Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.

Rope—Wire—
Ajax Rope Co., Inc.
American Cable Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Leschen, A. & Sons, Rope Co.
Wickwire-Spencer Steel Co.

Rotary Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Rotary Drilling Equipment—
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Rotary Lines (See Rope—Wire)—

Rotary Pout—
Reed Roller Bit Co.

Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.

Rubber Belting (See Belting)—

Rubber Hose (See Hose)—

Run Down Tanks (See Tanks)—

Rust Preventatives—
Dearborn Chemical Co.
Eagle-Picher Lead Co.

S

Sand Lines—Manila —
Ajax Rope Co., Inc.
Plymouth Cordage Co

Sand Lines—Wire—
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Wickwire-Spencer Steel Corp.

Screens—Oil Well—
Layne & Bowler Co.

Screens—Water Well—
Layne & Bowler Co.

Screws Temper—
Burns Tool Co.

Seamless Steel Couplings—(See Couplings Seamless Steel)—

Separators—Centrifugal—
Miller, Max B., & Co.
Sharpless Specialty Co.
Wolf Engineering Equipment Co.

Separators—Gas and Oil—
American Tank Co.
Smith Separator Co.

Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.

Sheets—Corrugated, Black and Galvanized—
American Sheet & Tin Plate Co.
Ryerson, Joa., T., & Son, Inc.
United Alloy Steel Corp.

Sheets—Steel—
American Sheet & Tin Plate Co.
Republic Iron & Steel Co.
Sheffield Steel Corp.
United Alloy Steel Corp.

Shingles—Asbestos—
Johns-Manville, Inc.

Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Slush Pump Pistons (See Pistons)—

Slush Pumps—(See Pumps)—

Smoke Stacks—
Donovan Boiler Works.

Snuffers—Fire—
Simplex Equipment Co.

Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

Sockets—Swivel—
Arbon, Paul, & Co.

Sockets—Wire Rope—
Chicago Steel Foundry Co.

Soda Ash—
Mathieson Alkali Works, Inc.

Soda—Caustic—
Mathieson Alkali Works, Inc.

Solders—Bar and Wire—
Eagle-Picher Lead Co.
Hoyt Metal Co.

Spark Plugs—
Mosier Metal Products Corp.

Spears—
Acme Fishing Tool Co.
Brown Tool Co., Inc.

Special Steel (See Steel Special)—

Split Sleeves (See Sleeves)—

Sprockets—Power Transmission—
Ajax Iron Works.
Chain Belt Co.

Stands—Vise—
Nye Tool & Machine Works.

Stationary Pipe Threading Die Heads (See Die Heads)—

Steel—All Kinds—
Ryerson, Joa., T., & Son, Inc.

Steel—Alloy—
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.

Steel—Bit—
Central Steel Co.

Steel—Hot Rolled Strip—
Central Steel Co.

Steel—Special—
Andrews Steel Co.
Central Steel Co.
United Alloy Steel Corp.

Steel Band Wheels (See Band Wheels—Steel)—

Steel Bridges—(See Bridges)—

Steel Bull Wheels (See Bull Wheels—Steel)—

Steel Castings (See Castings)—

Steel Couplings for Casing, Line Pipe, Drill Pipe and Tubing (See Couplings)—

Steel Crown Blocks (See Crown Blocks)—

Steel Derricks (See Derricks)—

Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Steel Plate Construction—
Chicago Bridge & Iron Works
Graver Corp.
Kaw Boiler Works Co.
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.

Steel Sheets (See Sheets, Steel)—

Steel Valves (See Valves—Steel)—

Steel Walking Beams (See Walking Beams—Steel)—

Steel Wheels and Tug Rims—
International Derrick & Equipment Co.

Stills—
Chicago Bridge & Iron Works.
Graver Corp.
Kaw Boiler Works Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Smith, A. O., Corp.
Vogt, Henry, Machine Co.
Widdell Engineering Co.

Stocks & Dies—
Borden Co.
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Structural Steel Fabricators (See Steel Fabricators)—

Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.

Sucker Rods (See Rods—Sucker)

Suction Pumps (See Pumps)—

Sulphuric Acid—
Eagle-Picher Lead Co.

Superheaters—Steam—
Power Plant Equip. Co.

Swabs—
Arbon, Paul, & Co.
Guiberson Corp.
Hoffman Mfg. Co.
Saunders Bros.
Simplex Equipment Co.

Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

Swing Line Equipment—
Brooks Engineering Corp.

Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tank Cars (See Cars—Tank)—

Tank Cars Leased (See Cars)—

Tank Equipment—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Tanks—Bolted—
American Tank Co.
Butler Mfg. Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

Tanks—Bulk Station—
Butler Mfg. Co.
Graver Corp.

Tanks—Cylindrical—
Petroleum Iron Works Co.

Tanks—Elevated Steel—
Chicago Bridge & Iron Works.

Tanks—Field Storage—
American Car & Foundry Co.
American Tank Co.
Donovan Boiler Works.
Graver Corp.
Kaw Boiler Works.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
United Iron Works, Inc.

Tanks—Horizontal Storage—
Graver Corp.
Kaw Boiler Works Co.
Maloney Tank Mfg. Co.

Tanks—Run Down—
Donovan Boiler Works.
Graver Corp.
Kaw Boiler Works Co.
Newton Process Mfg. Co.

Tanks—Truck—
American Tank Co.
Butler Mfg. Co.
White Co.

Tanks—Underground—
Butler Mfg. Co.
Gilbert & Barker Mfg. Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.

Tanks—Welded—
American Tank Co.
Chicago Bridge & Iron Works.

Taper Taps—
Hughes Tool Co.

Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.

Temperature Controllers (See Controllers—Temperature)—

Temper Screws (See Screws)—

Thermometers—Indicating and Recording—
American Schaeffer & Budenberg Corp.
Bristol Co.
Taylor Instrument Co.

Threading Machines—
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.

Thread Protectors—
Spang & Co.

Tires—Automobile—
Continental Supply Co.

Tongs—
Bridgeport Machine Co.
Wilson Oil Tools Corp.

Tongs—Back Up—
Williams, J. H., & Co.

Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.

Tongs—Casing—
Dunn Mfg. Co.
Guiberson Corp.

Tongs—Chain Pipe—
Armstrong Bros. Tool Co.
Williams, J. H., & Co.

Tongs—Pipe—
National Transit Pump & Machine Co.

Tongs—Rotary—
Dunn Mfg. Co.

Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.

Tongs—Tubing—
Dunn Mfg. Co.

Tool Chests—Pipe—
Nye Tool & Machine Works.

Tool Joints—
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.

Tool Joint Tongs (See Tongs)

Tools—Fishing and Drilling (See Drilling and Fishing Tools)—

Torches—
Oxweld Acetylene Co.

Tractor Oil (See Oil—Tractor)—

Tractors—
International Harvestor Co. of America.
Rock Island Plow Co.

Transmission Belt—Rubber—
Goodrich, B. F. Rubber Co.
United States Rubber Co.

Transmission Lining—
Stanley Belting Corp.

Traveling Block—
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Mfg. Co.

Treaters—Vertical Boom—
Barber-Greene Co.

Trucks—Motor—
Ford Motor Co.
General Motors Truck Co.
International Harvester Co. of of America.
White Co.

Truck Tanks (See Tanks)—

Truck Tires (See Tires—Truck)—

Tubes—Boiler, Charcoal Iron—
Byers, A. M., Co.
Reading Iron Co.

Tubes—Boiler Steel—
Continental Supply Co.
National Tube Co.
Ryerson, Joa. T., & Son, Inc.

Tubing—
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
Continental Supply Co.
National Tube Co.
Reading Iron Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.

Tubing Catchers—
Continental Supply Co.
Dunn Mfg. Co.
Guiberson Corp.

Tubing Elevators (See Eelevators, Casing and Tubing)—

Tubular Goods—
Continental Supply Co.
Oil Well Supply Co.
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.

Tubular Goods—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.

Turbines for Lighting Equipment
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

Turbine Generators (See Generators—Turbine)—

Turnbuckle Derricks (See Derricks)—

U

Underground Tanks (See Tanks)

Underreamer Body Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Underreamers—
Bridgeport Machine Co.
Brown Tool Co., Inc.
Guiberson Corp.
Wilson Oil Tools Corp.

Unions—
Jefferson Union Co.
Kelly & Jones Co.

V

Vacuum Pumps (See Pumps)—

Valuations—
American Appraisal Co.

Valves—Blow-off—
Homestead Valve Mfg. Co.

Valves—Brass and Bronze—
Homestead Valve Mfg. Co.
Kelly & Jones Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Mfg. Co.

Valves—Cast Steel—
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.

Valves—Check—
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.

Valves—Drop Forged Steel—
Edward Valve & Mfg. Co.
Vogt, Henry, Machine Co.

Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Crane Co.
Darling Valve & Mfg. Co.
Kelly & Jones Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co.
Powell, Wm., Co.

Valves—Iron—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.

Valves—Metal Pump—
Durable Mfg. Co.

Valves—Pump—
United States Rubber Co.

Valves—Relief—Supersensitive—
Davis Regulator Co.

Valves—Steel—
Chapman Valve Mfg. Co.
Edward Valve Mfg. Co.
Kelly & Jones Co.
Kerotest Mfg. Co.
Lunkenheimer Co.
Metric Metal Works.
Powell, Wm., Co.
Reading Steel Casting Co.

Valves—Tank Vent—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Valves—Working Barrel—
Atlas Ball Co.
Axelson Machine Co.
D & P Pump & Supply Co.
Hough, Charles N., Mfg. Co.
Northup Equipment Co.
Oil Well Supply Co.

Varnishes—
Arco Company, The.
Sherwin-Williams Co.

Ventilators—Rotary—
Swartwout Co.

Vises—Bench—
Nye Tool & Machine Works.

Vises—Pipe—
Nye Tool & Machine Works.

Vises—Post—
Nye Tool & Machine Works.

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.

Walking Beams—Steel—
Emsco Derrick & Equip. Co.
Moore, Lee C., & Co., Inc.

Water Cooling Systems—
Power Plant Equip. Co.

Water Gauge Cocks (See Cocks)—

Water Pumps (See Pumps)—

Water Softeners and Filters—
Butler Mfg. Co.
Graver Corp.

Water Well Screens (See Screens)

Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

Weight Indicators—
Hughes Tool Co.

Welded Tanks (See Tanks)—

Welding Accessories—Electric—
Wilson Welder & Metals Co.

Welding and Cutting Apparatus—
Oxweld Acetylene Co.

Welding Machines—Electric—
Wilson Welder & Metals Co.

Welding Supplies—
Oxweld Acetylene Co.

Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.

Well Drilling and Fishing Tools—(See Drilling and Fishing Tools)—

Well Drilling Equipment (See Drilling Equipment)—

Well Shooting—
Eastern Torpedo Co.
Zero Hour Torpedo Co.

Wheels—Pipe Cutter—
Nye Tool & Machine Works.

Wheel—Steel Automotive—
Budd Wheel Co.

Winches—
Braden Co.
Brooks Engineering Co.
Oil Conservation Engineering Co.

Wire Lines (See Cables—Steel)—

Wire Rope (See Rope—Wire—

Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.

Working Barrels—
Axelson Machine Co.
D & B Pump & Supply Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Norris, W. C.
Northrup Equipment Co.
Oil Well Supply Co.

Working Barrel Valves (See Valves—Working Barrel)—

Wrenches—Closet Spuds—
Nye Tool & Machine Works.

Wrenches—Drop Forged—
Williams, J. H., & Co.

Wrenches—Pipe—
Trimont Mfg. Co.
Walworth Mfg. Co.

Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works.

Z

Zinc Oxide—
Eagle-Picher Lead Co.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for February Runs

*Prairie Pipe Line Co.	3,360,000	120,000
Gulf Pipe Line Co.	863,752	30,848
Texas Pipe Line Co.	478,324	17,083
Magnolia Pet. Co.	1,036,521	36,983
Cosden Pipe Line Co.	810,019	28,928
Empire Pipe Line Co.	644,510	23,018
*Sinclair ipe Line Co.	1,417,220	50,615
*Other lines	6,636,000	237,000
Total February	15,245,347	544,475
Total January	16,910,854	545,507
Difference	1,665,507	1,032

Shipments

†Prairie Pipe Line Co.	4,071,405	145,407
Gulf Pipe Line Co.	1,015,592	36,271
Texas Pipe Line Co.	506,744	18,098
Magnolia Pet. Co.	1,350,252	48,223
Cosden Pipe Line Co.	636,563	22,948
Empire Pipe Line Co.	720,206	25,722
†Sinclair Pipe Line Co.	2,102,156	75,077
*Other lines	7,140,000	255,000
Total February	17,542,918	626,532
Total January	19,168,415	618,333
Difference	1,625,497	8,199

Stocks

*Prairie Oil & Gas Co.	27,580,000
Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line and Gypsy Oil Co.	6,453,161
The Texas Company	4,323,345
Magnolia Petroleum Co.	5,455,717
Cosden Pipe Line Co.	1,771,451
Empire Pipe Line Co.	2,890,445
Sinclair Crude Oil Purchasing Co.	21,560,000
Carter Oil Co.	15,018,257
*Other lines	9,900,000
Total February	96,942,376
Total January	98,258,772
Difference	1,316,396

*Estimated.

†Prairie shipments also include Texas crude oil and Sinclair shipments include also Wyoming and Texas crude oil.

Note—Stocks do not include approximately 5,900,000 bbls. held in storage on private tank farms and leases.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for January and February:

	Jan. '26	Feb. '26
Nat. Transit	143,083.03	140,437.20
S. W. Pa. P. L.	77,636.84	82,218.00
Eureka P. L.	328,099.81	328,709.96
Buckeye P. L. (Macksburg)	279,450.58	275,240.87
Buckeye P. L. (Cleveland)	11,364.93	10,297.41
Buckeye P. L. (Lima, etc.)	117,303.17	117,052.32
Indiana P. L.	8,872.25	9,530.57
Cumberland P. L.	264,029.33	257,256.68
N. Y. Transit	18,738.53	17,815.08
Tidewater P. L.	145,119.51	136,839.08
Pure Oil	168,182.42	158,793.42
Emery P. L.	48,775.97	43,886.55
Indian Ref.	80,966.82	80,656.88
Paragon Dev.	26,760.22	25,650.67
Pittsburgh P. L.	6,141.78	6,649.29
Total	1,724,524.19	1,691,032.98
Daily average	55,629.81	60,394.03

Note—Indian Refining Co. also reported other receipts of 280,008.91 bbls. Paragon Refining Co. had other receipts of 136,185.12 bbls. Paragon Development had other receipts of 1,750.32 bbls. Pure Oil had other receipts of 58,277.57 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pensylvania, West Virginia, Ohio, Kentucky and Indiana for January and February:

	Jan. '26	Feb. '26
Nat. Transit	288,806.28	300,394.95
S. W. Pa. P. L.	366,562.67	320,361.13
Eureka P. L.	164,947.50	148,099.79
Buckeye P. L. (Macksburg)	117,132.01	122,324.18
Buckeye P. L. (Cleveland)	1,122.82	969.77
Buckeye P. L. (Lima, etc.)	786,501.04	705,531.60
Indiana P. L.	1,162,995.13	1,099,401.49
Cumberland P. L.	102,188.71	150,113.41
N. Y. Transit	708,005.50	526,231.48
Northern P. L.	135,305.06	122,498.92
Tidewater P. L.	107,972.03	143,555.36
Pure Oil	224,858.49	211,673.48
Emery P. L.	41,988.55	44,856.24
Paragon Ref.	161,272.07	118,033.56
Indian Ref.	428,138.88	421,529.21
Paragon Dev.	31,314.40	23,864.81
Pittsburgh P. L.	7,640.10	6,292.15
Total	4,837,741.24	4,465,661.53
Daily average	156,056.29	159,487.91

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of January and February, were as follows:

	Jan. '26	Feb. '26
Nat. Transit	1,010,068.01	1,010,062.31
S. W. Pa. P. L.	705,514.46	668,593.49
Eureka P. L.	1,503,389.89	1,514,235.47
Buckeye P. L. (Macksburg)	335,515.41	372,524.75
Buckeye P. L. (Cleveland)	72,522.50	66,885.32
Buckeye P. L. (Lima, etc.)	2,773,898.13	2,402,586.47
Indiana P. L.	536,488.64	550,608.52
Cumberland P. L.	607,313.30	583,281.41
Southern P. L.	497,782.56	532,096.25
N. Y. Transit	659,952.29	721,540.07
Northern P. L.	449,403.67	481,120.13
Pure Oil	400,945.59	405,108.77
Emery P. L.	30,751.95	29,360.37
Paragon Ref.	48,043.84	71,433.17
Indian Ref.	318,689.98	159,991.34
Paragon Rev.	4,800.92	5,465.24
Pittsburgh P. L.	4,084.15	4,502.80
Total	9,859,170.36	9,579,394.88
Increase	599,275.00	279,775.48

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of January and February showing the gross stocks of the above fields:

	Jan. '26	Feb. '26
Penna.	3,862,226.25	3,895,733.10
Lima	1,025,702.95	1,022,956.97
Kentucky	1,197,666.71	1,181,936.95
Mid-Continent	3,717,998.58	3,396,996.28
Illinois	55,576.87	81,771.58
Total	9,859,170.36	9,579,394.88

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1923	1924	1925	1926
January	75,790	62,638	56,831	55,630
February	71,092	68,023	60,606	60,394
March	76,592	65,721	60,575	.....
April	75,614	71,058	63,062	.....
May	77,365	63,942	59,217	.....
June	77,593	63,230	61,270	.....
July	71,879	64,208	62,639	.....
August	76,910	59,942	59,686	.....
September	72,358	62,930	62,510	.....
October	76,256	64,976	60,995	.....
November	70,762	56,282	59,350	.....
December	69,271	55,814	57,974	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1923	1924	1925	1926
January	171,067	145,518	157,889	156,056
February	164,219	148,732	160,863	159,488
March	186,487	147,098	154,591	.....
April	170,751	147,611	151,429	.....
May	177,102	134,997	146,995	.....
June	173,598	143,010	149,467	.....
July	168,330	124,187	161,338	.....
August	142,776	123,120	161,730	.....
September	137,266	127,325	156,719	.....
October	134,597	123,170	145,388	.....
November	131,426	124,400	143,582	.....
December	139,909	151,392	150,162	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1924	1925	1926
January	12,907,202	11,353,276	9,859,170
February	11,844,068	11,132,924	9,579,394
March	10,906,752	11,158,237	.....
April	10,922,742	11,062,082	.....
May	11,335,309	11,207,562	.....
June	11,544,204	11,093,796	.....
July	12,062,361	11,067,453	.....
August	12,221,676	10,974,481	.....
September	12,206,836	10,781,753	.....
October	12,564,061	11,086,850	.....
November	12,268,530	11,068,158	.....
December	11,583,680	10,458,445	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1925—	Receipts	Shipmts.	Stocks
February	2,702.05	4,564.70	11,075.83
March	3,177.21	2,354.30	11,898.74
April	3,040.41	1,780.11	13,153.04
May	2,814.99	5,719.90	10,254.13
June	3,052.75	1,221.83	12,085.05
July	2,639.34	3,174.10	11,550.29
August	3,216.97	1,577.99	13,189.27
September	2,929.99	5,352.05	10,767.21
October	2,869.75	1,499.34	12,137.62
November	2,759.66	2,571.32	12,325.40
December	2,661.87	3,441.67	11,503.60
1926—			
January	3,990.16	1,478.35	13,015.41
February	2,580.23	2,776.19	12,819.45

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks March 1	2,525,834.95
Runs from wells	605,763.55
Other receipts	497,242.71
Regular deliveries	465,591.43
Other deliveries	461,229.17

The amount of Illinois oil run by the Tidewater Pipe Co. in February was 26,848.44 bbls. and deliveries were 40,719.09 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1925—		
March	754,335.68	611,348.49
April	632,865.14	637,242.85
May	692,671.94	668,573.62
June	700,090.46	589,535.24
July	734,481.26	664,713.19
August	673,652.28	650,649.97
September	706,434.87	610,697.61
October	706,532.00	633,682.33
November	664,556.30	488,449.19
December	665,086.99	578,938.47
1926—		
January	665,243.62	516,083.76
February	632,611.99	506,310.51

The Tidewater Pipe Co., Ltd., also delivered in February 115,542.91 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 299,817.36 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans	Port Arthur Baton Rouge	Sabine Pass	Tampa	Total	Total All Ports
November	7,032	9,419	14,258	12,903	9,161	52,773	.....	.....	.....	5,032	306	5,338	58,611
December	6,226	12,139	28,452	20,193	9,677	76,677	.....	.....	4,839	4,871	.....	9,710	86,387
January	9,355	13,484	32,581	19,387	5,097	79,804	.....	.....	.....	.....	66	66	79,869
February	13,111	9,464	28,214	24,393	20,107	95,289	.....	.....	.....	.....			95,289

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans	Port Arthur Baton Rouge	Sabine Pass	Tampa	Total	Total All Ports
November	18,936	4,193	45,774	9,806	33,419	112,127	12,613	26,484		7,516	6,000	52,613	164,740
December	12,806	20,548	35,613	15,064	30,613	114,644	13,129	25,337		6,935	5,516	50,967	165,611
January	12,451	19,484	49,451	13,645	21,903	115,934	21,903	25,871		5,645	4,871	58,290	174,224
February	14,643	16,071	60,107	9,464	20,750	121,035	22,321	50,250		6,286	6,714	85,571	206,606

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
March:	Month	18,626,019	14,403,716	13,062,907	2,824,534	3,564,473	1,807,559	2,734,235	3,202,000	60,225,443
	Daily average	600,839	464,636	421,384	91,114	114,983	58,308	88,201	103,290	1,942,756
April:	Month	17,959,053	14,055,450	12,695,365	2,971,110	7,560,230	1,767,077	2,744,691	3,084,000	62,837,576
	Daily average	598,655	468,515	423,179	99,037	252,008	58,903	91,490	102,800	2,094,586
May:	Month	18,820,328	14,443,675	13,077,697	3,493,266	11,813,996	1,886,752	2,799,542	3,167,300	69,502,556
	Daily average	607,107	465,925	421,861	112,686	381,097	60,863	90,308	102,171	2,242,015
June:	Month	19,288,135	13,832,970	12,602,540	3,229,440	9,200,372	1,830,965	2,754,498	3,389,000	66,127,920
	Daily average	642,938	461,099	420,085	107,648	306,672	61,032	91,816	109,000	2,204,264
July:	Month	20,411,049	14,263,565	12,337,598	3,686,675	7,835,819	1,898,178	3,129,199	3,348,000	66,910,083
	Daily average	658,421	460,115	397,984	118,925	252,768	61,231	100,942	108,000	2,158,390
August:	Month	21,005,580	14,441,040	11,936,079	3,558,087	7,450,580	1,858,543	3,250,448	3,177,000	66,677,257
	Daily average	677,599	465,480	385,032	114,777	240,341	56,727	104,853	102,484	2,150,883
September:	Month	20,062,763	14,825,040	11,264,890	3,393,270	6,457,950	1,776,570	3,235,625	3,213,000	64,228,108
	Daily average	668,759	494,168	375,496	113,109	215,265	59,219	107,854	107,067	2,140,937
October:	Month	20,015,076	14,921,199	11,196,511	3,477,146	6,409,281	1,871,830	3,394,990	3,248,000	64,534,033
	Daily average	645,648	481,329	361,178	112,166	206,751	60,382	109,500	104,774	2,081,743
November:	Month	19,096,907	14,590,980	10,650,087	3,221,760	5,927,955	1,758,882	3,088,121	2,992,000	61,325,692
	Daily average	636,530	486,366	355,003	107,397	197,599	58,629	102,937	99,753	2,044,190
December:	Month	19,249,711	14,123,848	10,930,455	3,308,816	6,047,883	1,763,966	3,187,164	3,086,900	61,698,742
	Daily average	620,959	455,608	352,595	106,736	195,093	56,902	102,812	99,552	1,990,281
January:	Month	19,069,563	13,674,813	10,880,814	3,250,536	5,489,620	1,606,952	3,136,280	3,014,000	60,122,578
	Daily average	615,147	441,123	350,994	104,856	177,084	51,835	104,396	97,226	1,939,438
February:	Month	17,163,963	12,387,620	9,689,120	2,877,812	4,756,836	1,583,904	2,769,605	2,719,100	53,947,960
	Daily average	612,999	442,415	346,040	102,779	169,887	56,568	98,914	97,111	1,926,713
	Total 12 months	230,767,747	169,963,916	140,324,063	39,292,452	82,514,995	21,411,178	36,224,398	37,639,300	758,138,049
	Daily average	632,240	465,655	384,449	107,651	226,068	58,661	99,245	103,121	2,077,661

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Air Cleaning & Reaming Corp. 21
Ajax Iron Works 74
Ajax Rope Co. 179
Aluminum Co. of America
American Appraisal Co.
American Asphalt Paint Co.
American Cable Co. 115
American Car & Foundry Co.
American Mfg. Co. of Texas
American Radiator Co.
American Roller Bearing Co. 172
American Rolling Mill Co.
American Schaeffer & Budenburg Corp.
American Sheet & Tin Plate Co.
American Spiral Pipe Works
American Tank Co.
American Telephone & Telegraph Co. Inside Front Cover
American Well Works
Anderson & Anderson 180
Anderson, Carl B. 178
Andrews Steel Co. 164
Arbon, Paul & Co.
Arco Company, The 22
Armstrong Bros. Tool Co. 176
Arnold, J. F., & Co.
Askania, Werke, A. G.
Athey Truss Wheel Co.
Atlas Ball Co.
Auer, C. A. 180
Austin Co. 5
Axelson Machine Co. 157

B

B. & A Specialty Co.
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The
Baker Casing Shoe Co. 176
Baker Motors, Inc.
Baldwin Chain & Mfg. Co.
Barber-Greene Co.
Barnickel, Wm. S., & Co. 125
Barnsdall Refining Co.
Bartlesville Supply Co.
Beaver Mfg. Co.
Belle City Mfg. Co.
Berry's James B., Sons Co.
Bessemer Gas Engine Co. 103
Bignall & Keeler Machine Works 15
Binks Spray Equipment Co.
Black Steel & Wire Co.
Blackmer Pump Co. 179
Blaw-Knox Co.
Borden Co.
Botfield Refractories Co.
Bovaird & Seyfang Mfg. Co. 171
Bovaird Supply Co., The 91
Braden Co.
Braun, C. F., & Co.
Bridgeport Machine Co.
Bristol Co.
Broderick & Bascom Rope Co. 122
Brokaw, Dixon, Garner & McKee 180
Brooks Engineering Corp.
Brownell Co. 179
Brown Instrument Co.
Brown & Thomsen 178
Brown Tool Co., Inc.
Bruce-MacBeth Engine Co.
Buckeye Traction Ditcher Co.
Buda Co.
Budd Wheel Co.
Buffalo Gasolene Motor Co.
Burns Tool Co. 83
Burt Mfg. Co.
Busch-Sulzer Bros., Diesel Engine Co.
Butler Mfg. Co.
Byers, A. M., Co. 123
Byron Jackson Pump Mfg. Co., Inc. 109

C

Campbell, J. A. 110
Canadian Pacific Railway Co.
Carbondale Machine Co.
Caudill, Samuel J. 178
Celite Products Co.
Central Steel Co. 19
Central Tube Co. 178
Chain Belt Co. 47
Champion Machine & Forging Co.
Chaplin-Fulton Mfg. Co. 176
Chapman Valve Mfg. Co.
Chestnut & Smith Corp.
Chicago Bridge & Iron Works 55
Chicago Pneumatic Tool Co.
Chicago Steel Foundry Co.
Clapp, Frederick G. 178
Clark Bros. Co. 70-71
Clark, Robert W. 180
Classified Wants 140-141
Cleveland Tractor Co. 100
Climax Engineering Co.
Coatesville Boiler Works
Columbian Rope Co.
Columbus Forge & Iron Co. 177
Columbus Sucker Rod Co.
Continental Motors Corp.
Continental Supply Co. 40
Cook Paint & Varnish Co.
Cooper, C. & G., Co.
Cox & Sons Co., The
Crane Co. Front Cover
Crane Packing Co.
Crown Central Petroleum Corp.
Cross Engineering Co.
Cunningham Co. 174
Cushing, Tim, Tool & Supply Co.

D

D. & B. Pump & Supply Co.
Darling Valve & Mfg. Co.
Dart, E. M., Mfg. Co.
Davis, G. M., Regulator Co.
Day, Roland B. 179
Dayton Pipe Coupling Co.
Dean Bros. Co. 176
Dean Hill Pump Co. 176
Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.
Detroit Graphite Co.
Diamond Drill Carbon Co. 180
Diamond Drilling & Exploration Co.
Diamond Power Specialty Corp.
Dixon, Joseph Crucible Co.
Dodge Mfg. Co.
Donovan Boiler Works, Inc.
Dresser, S. R., Mfg. Co. 35
Dunn Mfg. Co.
Durabla Mfg. Co. 97

E

Eagle-Picher Lead Co. 3
Eastern Torpedo Co.
Eclipse Paint & Mfg. Co.
Edward Valve & Mfg. Co.
Elliott Core Drilling Co. 116
Empire Refineries, Inc.
Emsco Derrick & Equipment Co. 8
Equitable Meter & Mfg. Co. 57
Eureka Burner Co. 53

F

Fairbanks-Morse & Co.
Farley Machine Works Co.
Federal Supply Co. 13
Fenwick-Reddaway Mfg. Co. 175
Fisher Governor Co.
Foamite-Childs Corp. 119
Fohs, F. Julius 179
Foos Gas Engine Co.
Ford Chain Block Co. 137
Ford Motor Co.
Fort Worth Laboratories 178
Foxboro Co., Inc., The
Franklin Valveless Engine Co.
Frick-Reid Supply Co. 67
Full Crawler Co. 174

G

Gardner Governor Co.
Garlock Packing Co.
Garrett, M. M. 180
Gaso Pump & Burner Mfg. Co. Inside Back Cover
General American Tank Car Corp.
General Motors Truck Co.
General Oil Tools Co.
Gilbert & Barker Mfg. Co.
Gilfillan Machine Works
Gomory, W. L. 180
Goodrich, B. F. Rubber Co.
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co.
Gould Pumps, Inc.
Graver Corp. 147
Greene, Frank C. 179
Greenspon's, Joseph, Sons Iron & Steel Co. 168
Griscom-Russell Co. 98
Guiberson Corp. 51
Gulf Refining Co. 16

H

Halliburton, Erle P. 135
Harrisburg Pipe & Pipe Bending Co.
Hazard Mfg. Co. 169
Heppenstall Forge & Knife Co.
Herald Brothers 180
Hercules Motors Corp.
Hercules Tool Co.
Heydrick Mapping Co. 180
Hills-McCanna Co.
Hinderliter Tool Co. 111
Homestead Valve Mfg. Co.
Hood, H. H. 180
Hoover Steel Ball Co.
Hope Engineering & Supply Co. 12
Hopkins, Edwin B. 179
Hough, Charles N., Mfg. Co. 129
Houston Pump & Supply Co.
Hoyt Metal Co.
Hughes Tool Co. 149—Back Cover
Humble Oil & Refining Co.
Hunt, Robert W., Co. 180
Huntley & Huntley 178

I

Illinois Glass Co.
Imperial Belting Co. 172
Imperial Royalties Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co. 24
International Harvester Co. of America
International Supply Co. 9
Iron King Mfg. Co.

J

Jarecki Mfg. Co.
Jefferson Union Co. 161
Johns-Manville, Inc.
Jones, S. M., Co. 178

K

Kansas City Hay Press Co.
Kaw Boiler Works Co.
Kellogg, M. W., Co. 167
Kelly, John Eoghan 178
Kelly & Jones Co. 127
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co. 20
Kerr, John B. 179
Keuffel & Esser Co. 177
Kewanee Boiler Co. 2
Key Boiler Equipment Co.
Kirk & Hoover 178

L

Land's Machine Co.
Larkin & Co. 118
Layne & Bowler Co.
Leidecker Tool Co.
Leschen, A., & Sons Rope Co. 87
Linde Air Products Co. 1
Link-Belt Co. 14
Longyear, E. J., Co. 179
Lucey Mfg. Corp. 113
Ludlow Valve Mfg. Co. 168
Lufkin Foundry & Machine Co.
Lufkin Rule Co. 178
Lunkenheimer Co. 4

Mc

McCord Radiator & Mfg. Co. 108
McGraw-Baughman-Bearly Lbr. Co. 94
McGregor Working Barrel Co. 177
McIntosh & Seymour Corp.
McJunkin Supply Co.
McKee, Arthur G., & Co.
McNutt, V. H. 179

M

Magnolia Petroleum Co. 131
Maloney Tank Mfg. Co. 130
Manzel Brothers Co.
Marion Machine Foundry & Supply Co. 128
Marsh Gauge Pole Co. 177
Mathieson Alkali Works, Inc. 126
Matson, George C. 179
Matthews, W. N., Corp.
Maverick, Phillip 180
Messimer, H. H. 178
Metric Metal Works 117
Midwest Piping & Supply Co.
Miller, Max B., & Co., Inc.
Milwaukee Forge & Machine Co.
Mineral Exploration Co.
Mine Safety Appliance Co.
Moon Manufacturing Co.
Moore, Lee C., & Co., Inc. 59
Mosler Metal Products Corp.
Munn & Co. 179
Murray Rubber Co. 169
Murray Tool & Supply Co.
Myers, F. E., & Bro. Co. 177

N

National Carbon Co., Inc. 1
National Gas Products Co. 45
National Lead Co.
National Petroleum Engineering Corp. 179
National Petroleum Marketers Association
National Supply Co. 104-105
National Transit Pump & Machine Co. 106
National Tube Co.
National Turnbuckle Derrick Co.
Newton Process Mfg. Co. 33
Norris Bros., Inc.
Norris, W. C.
North American Car Co.
Northern Fire Apparatus Co.
Northern Oil Information Bureau 177
Northrup Equipment Co. 102
Novo Engine Co.
Nuttall, R. D., & Co. 170
Nye Tool & Machine Works 7

O

O'Brien Steel Construction Co.
Ohio Steel Foundry Co.
Oil Conservation Engineering Co.
Oil Country Specialties Mfg. Co.
Oil Insurance Association
Oil Well Supply Co. 63-84-85
Okell Well Machinery Co. 139
Oklahoma Steel Casting Co.
Okmulgee Boiler & Welding Works
Oxweld Acetylene Co. 1

P

Parkersburg Machine Co.
Parkersburg Rig & Reel Co. 96
Partridge-Scotford Stencil Co. 177
Patrick, R. S.
Pattin Brothers Co. 173
Penberthy Injector Co. 139
Pennzoil Co., The
Petroleum Appliance Co. 139
Petroleum Iron Works
Pforzheimer, Carl H., & Co. 175
Pickering Governor Co.
Pittsburg Boiler & Machine Co. 164
Pittsburgh-Des Moines Steel Co. 170
Pittsburgh Meter Co. 174
Plymouth Cordage Co. 173
Porter & Co. 37
Powell, William, Co.
Power Mfg. Co. 112
Power Piping Co. 180
Power Plant Equipment Co.
Power Specialty Co.
Prescott Co., The 10
Prest-O-Lite Co., The 1

P

Progressive Brass Mfg. Co. 166
Pure Oil Co. 61
Pyle-National Co. 79

R

Ranney Oil Mining Co. 177
Ratigan, J. P., Co.
Reading Iron Co.
Reading Steel Casting Co., Inc. 11
Reed Roller Bit Co. 69
Regan Forge & Engineering Co. 64-65
Reid, Joseph, Gas Engine Co. 17
Republic Flow Meters Co.
Republic Iron & Steel Co.
Republic Supply Co. 23
Rich, John L. 178
Ring, DeWitt T. 180
Riter-Conley Co. 180
Robinson, A.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries
Ryerson, Joseph T., & Son 178

S

Safety Pulling Machine Co. 120
Saunders Bros. 107
Shaffer, J. E., Co.
Shaffer Tool Works 137
Sharples Specialty Co.
Sheffield Steel Corp. 114
Sherwin-Williams Co.
Shippers' Car Line, Inc.
Simplex Equipment Co.
Sinclair Refining Co. 153
Sivyer Steel Casting Co.
Skelly Oil Co.
Smith, A. O., Corp.
Smith, Gene R. 179
Smith Separator Co. 95-99
South Chester Tube Co.
Southern Cornice Works
Southwestern Engineering Corp. 171
Southwestern Engineering Co., Inc. 167
Spang & Co. 121
Spang, Chalfant & Co., Inc. 101
Spence Machine Co.
Stalder, Walter 179
Standard Seamless Tube Co. 89
Stanley Belting Corp.
Star Drilling Machine Co.
States Engineering Co., The
Stearns-Roger Mfg. Co.
St. Louis Surfacer & Paint Co.
Strom Steel Ball Co. 166
Sullivan Co., The
Sullivan Diamond Core Drills 180
Sullivan Machinery Co.
Superior Tube Co.
Swartwout Co., The

T

Taylor Instrument Co.
Templeton, Kenley & Co., Ltd.
Texas Company, The 49
Thompson, V. A. 179
Timken Roller Bearing Co.
Titusville Forge Co.
Titusville Iron Works
Toledo Pipe Threading Machine Co. 165
Trimont Mfg. Co.
Trumble Gas Trap Co. 133
Truscon Steel Co.
Twin Disc Clutch Co.

U

United Alloy Steel Corp.
United Iron Works, Inc. 165
United States Cast Iron Pipe & Foundry Co.
United States Rubber Co.
Universal Oil Products Co. 42-43
U. S. Tool Co.

V

Van Couvering, M. 178
Victaulic Co. of America 132
Vogt, Henry, Machine Co. 18
Volz Engineering Equipment Co.

W

Wall Rope Works, Inc.
Walsh & Weidner Boiler Co.
Walworth Mfg. Co.
Warren Petroleum Co.
Waukesha Motor Co.
Westcott & Greis
Western Machinery Co.
Western Supply Co. 93
Westinghouse Electric & Mfg. Co.
Wheeling Steel Corp. 72
White Co.
Wickwire Spencer Steel Co. 81
Wico Electric Co.
Widdell Engineering Co.
Williams, J. H., & Co.
Williamsport Development Co. 180
Williamsport Wire Rope Co.
Wilson Oil Tools Corp.
Wilson Welder & Metals Co. 6
W-K-M Company, Inc.
Wood & Wood 178
Worthington Pump & Machinery Corp. 124
Wright, Harry F. 180
Wright Mfg. Co. 180

Y

Yale & Towne Mfg. Co.

Z

Zero Hour Torpedo Co.

WHAT AND WHERE TO BUY—PAGES 181-182-183